

# Leonardo Carminati

Università degli Studi di Milano, Dipartimento di Fisica

via G. Celoria 16

20133, Milano, Italy

Phone: +39 02 503 17386

email: leonardo.carminati@mi.infn.it

---

## 1 Informazioni personali

Cognome : Carminati

Nome : Leonardo

Data di nascita : 08 Novembre 1974

- 2015 Professore di II fascia (02/A1 - Fisica Sperimentale delle Interazioni Fondamentali, settore scientifico-disciplinare FIS/01 - Fisica Sperimentale) presso il dipartimento di Fisica dell'Università degli studi di Milano.
- 2006 Ricercatore a tempo indeterminato presso il dipartimento di Fisica dell'Università degli studi di Milano.
- 2003 Assegnista di ricerca presso il dipartimento di Fisica dell'Università degli Studi di Milano.
- 2003 Dottorato di Ricerca in Fisica presso l'Università degli Studi di Milano con una tesi dal titolo *Calibration of the ATLAS electromagnetic calorimeter and its impact on the H into gamma gamma decay channel*.
- 2000 Borsista presso la Sez. di Milano dell'Istituto Nazionale di Fisica Nucleare.
- 1999 Laurea in Fisica presso l'Università degli Studi di Milano con una tesi dal titolo *Realizzazione di un sistema automatico per il test dei preamplificatori e studio dell'elaborazione del segnale nel calorimetro ad Argon liquido dell'esperimento ATLAS ad LHC*. (110/110 e lode)

## 2 Attività di ricerca e pubblicazioni scientifiche

### 2.1 ATTIVITÀ DI RICERCA

1. **Ricostruzione e calibrazione di elettroni e fotoni in ATLAS** (Periodo: 2000-oggi): ho lavorato allo studio delle performance del rivelatore ATLAS nella ricostruzione di elettroni e fotoni assumendomi in particolare la responsabilità della loro calibrazione. In particolare ho studiato e messo a punto un algoritmo

di calibrazione basato sulla parametrizzazione della risposta intrinseca del calorimetro, delle correzioni per il leakage trasversale e longitudinale evento per evento in funzione della profondita' degli sciame. Inoltre ho dimostrato che una stima dell'energia persa nel materiale passivo davanti al calorimetro puo' essere calcolata a partire dall'energia depositata nel primo comparto longitudinale del calorimetro elettromagnetico di ATLAS: ulteriori dettagli nella nota pubblica [335]. Il metodo di calibrazione da me studiato e' stato utilizzato dal calorimetro di ATLAS per la ricostruzione dei dati reali che hanno portato alla scoperta del bosone di Higgs. Lo studio delle performance della calibrazione elettromagnetica sui dati reali e' documentata in [5]. Dal 2011 ad oggi come responsabile della calibrazione di elettroni e fotoni per ATLAS ho curato il lavoro di perfezionamento delle tecniche di ricostruzione dell'energia, cruciali per le misure di precisione della massa del bosone di Higgs [12]. Sono stato direttamente editor del nuovo importante articolo di ATLAS [344] (accettato per la pubblicazione su EPJC) che documenta in dettaglio i risultati raggiunti dall'esperimento.

2. **Ricerca del bosone di Higgs nei canali a due fotoni** (Periodo: 2002-oggi): la ricerca del bosone di Higgs e' uno dei principali obiettivi di fisica per l'esperimento ATLAS. In particolare il canale di decadimento in due fotoni e' il piu' importante nel caso di massa al di sotto dei 150 GeV e uno dei piu' sensibili alle performance del calorimetro elettromagnetico. Mi sono occupato di studiare la potenzialita' di scoperta di ATLAS a partire da simulazioni complete e dettagliate del rivelatore. In particolare ho studiato la ricostruzione dell'energia e della posizione dei fotoni, del vertice di decadimento e della massa invariante dei due fotoni. Il mio impegno in questa fase preparatoria dell'analisi e' evidenziato nella nota pubblica di esperimento [336]. Tra il 2007 e il 2008 sono stato coordinatore per ATLAS di questa analisi scrivendone poi l'articolo relativo nell'ultima importante rassegna delle performance attese dall'esperimento ATLAS prima della presa dati [337]. Ho in seguito lavorato all'analisi dei dati che hanno portato alla scoperta del bosone di Higgs [7] contribuendo in modo importante al canale di decadimento in due fotoni [8]. Mi sono poi dedicato allo studio delle proprieta' del bosone di Higgs in particolare mass e couplings partecipando alle misure finali di ATLAS utilizzando tutti i dati raccolti nel run I. Il mio importante coinvolgimento in queste misure e' testimoniato dal fatto che ho lavorato come editor nell'articolo recentemente pubblicato da ATLAS sulla massa del bosone di Higgs [12] (selezionato dalla rivista PRD come *editors' suggestion*). Ho inoltre lavorato come editor dell'articolo di revisione finale dei risultati finali sui couplings del bosone di Higgs nel canale a due fotoni che e' attualmente sottoposto a Physical Review D [345].
3. **Misura della sezione d'urto di fotoni diretti** (Periodo: 2008-oggi) : la ricerca del bosone di Higgs in due fotoni e' strettamente collegata allo studio piu' generale della produzione di fotoni diretti in interazioni adroniche come predetta dalla QCD perturbativa. Grazie all'elevata statistica disponibile, stiamo facendo queste misure anche con la contenuta statistica sinora raccolta da ATLAS. Queste misure potranno fornire utili indicazioni per la determinazione delle distribuzioni partoniche nel protone e una conferma sperimentale della QCD perturbativa in una regione di elevato momento trasverso. Dal 2008 al 2010 sono stato il coordinatore per l'esperimento ATLAS delle attivita' relative allo studio di fotoni diretti di alto momento trasverso. Ho seguito la pubblicazione delle prime mis-

ure di fotone diretto di ATLAS: sono stato editor degli articoli sulla prima misura di sezione d'urto di fotone inclusivo [3], del canale fotone + jet [6] e di-fotone [128]. Nel contesto delle misure di fotone diretto ai collisioni adronici ho collaborato con i colleghi teorici per studiare e proporre nuove definizioni dei criteri di isolamento (discussi in [340]). Un'altro importante progetto che ho seguito con altri colleghi teorici e' quello di valutare l'impatto delle misure di fotone diretto nella riduzione delle sistematiche sulle PDF, in particolare del gluone: le misure di accoppiamenti dell'Higgs ( e in generale tutte le misure di precisione ad ATLAS ) incominciano ad essere dominate dalle incertezze teoriche di cui quelle sulle PDF sono una parte importante. In [11] abbiamo mostrato che una sensibile riduzione delle incertezze sistematiche può essere raggiunta con misure accurate di sezioni d'urto fotone + jet. In questo contesto partecipo al network europeo HiggsTools (<http://higgstools.org>).

4. **Ricerche di nuova fisica in stati finali con fotoni** (Periodo 2012-oggi) : mi sto anche attualmente occupando di ricerche di nuova fisica oltre il Modello Standard. In particolare ho lavorato sulla ricerca di produzione diretta di Dark Matter in eventi con fotoni ed energia trasversa mancante [10]. Attualmente sono editor di un articolo in preparazione sull'aggiornamento dei risultati con tutta la statistica raccolta del 2012. In aggiunta sto seguendo un progetto per la ricerca del decadimento di un Gravitone in due fotoni per il nuovo run di ATLAS previsto dall'inizio del 2015.
5. **Studio problematiche di analisi distribuita** (Periodo: 2005-oggi) : mi sono inoltre interessato alle problematiche relative al modello di analisi per esperimenti di fisica delle alte energie e ho contribuito allo sviluppo del centro di calcolo e analisi di Milano. La quantità di dati da analizzare agli esperimenti LHC richiede strutture di calcolo estremamente avanzate basate sul concetto di analisi distribuita : svariati centri di calcolo (Tiers) localizzati in diverse parti del mondo vengono utilizzati come una unica infrastruttura (grid) di calcolo a cui sottomettere l'analisi dei dati che viene automaticamente smistata al centro di calcolo piu' disponibile: alcuni dettagli ulteriori nel contributo [342]. Ho inoltre svolto in qualità di docente alcuni tutorial sull'analisi distribuita su Grid in ATLAS a colleghi in dipartimenti italiani. In questo contesto sono attualmente vice-responsabile del Tier2 di Milano. Partecipo inoltre al progetto PRIN *Sviluppo di tecnologie per l'ottimizzazione dell'accesso ai dati di LHC, trasferibili ad altri domini scientifici, mediante l'approccio del grid e del cloud computing* di cui coordino il lavoro dell'unità di Milano. Ho lavorato inoltre come responsabile della produzione dei dati derivati per l'analisi finale per il gruppo Higgs e Standard Model di ATLAS.
6. **Sviluppo di software di controllo per il sistema di alta tensione del calorimetro elettromagnetico dell'esperimento ATLAS** (Periodo: 2004-oggi) : ho progettato e sviluppato il sistema di controllo dell'alta tensione dal calorimetro elettromagnetico di ATLAS. Esso e' basato sul concetto della Finite State Machine, un sistema strutturabile in livelli gerarchici in cui gli stati dei livelli superiori sono definiti a partire dalle condizioni dei livelli inferiori mentre dai livelli superiori e' possibile inviare comandi e istruzioni ai livelli inferiori. Ulteriori dettagli possono essere trovati in [332]. Il sistema di controllo delle alte tensioni del

calorimetro e' integrato nel sistema di controllo di ATLAS e attualmente utilizzato durante la presa dati.

7. **Studio di tecniche di trigger veloce per il run ad alta luminosità di LHC** ho recentemente incominciato un progetto relativo alla possibilità di utilizzare GPU per algoritmi di trigger di primo livello nell'esperimento ATLAS in previsione del run ad alta luminosità di LHC. Il progetto e' stato finanziato dal dipartimento di Fisica su fondi destinati ai progetti innovativi per giovani ricercatori.
8. **Ricerca del bosone di Higgs nel canale di decadimento in un fotone e un bosone Z** (Periodo: 2013-2014). Questo decadimento è predetto dal Modello Standard con un branching ratio molto piccolo. L'osservazione di questo decadimento è importante per completare il quadro della comprensione del meccanismo di rottura spontanea della simmetria associato al bosone di Higgs. Come atteso non si ha evidenza di segnale nei dati accumulati ma si sono stabiliti limiti sulla sezione d'urto [318].
9. **Caratterizzazione dei preamplificatori OT del calorimetro elettromagnetico del rivelatore ATLAS** (Periodo: 1998-2000): ho lavorato alla progettazione e alla realizzazione di una stazione automatica per la caratterizzazione dei preamplificatori del calorimetro elettromagnetico di ATLAS. La stazione di test e' stata utilizzata per qualificare i circa 100000 canali di lettura prodotti in Italia secondo le performance richieste dall'esperimento in termini di guadagno, rumore e tempo di picco del segnale.

## 2.2 ARTICOLI ATLAS CON UN ELEVATO CONTRIBUTO PERSONALE

Durante il mio lavoro nella collaborazione ATLAS sono stato direttamente *editor* (parte del team di analisi ristretto che ha curato la stesura dell'articolo) o *contact editor* (responsabile della scrittura dell'articolo e della gestione della revisione con la rivista) di alcuni importanti articoli:

1. *Electron and photon energy calibration with the ATLAS detector using LHC Run 1 data* [344], contact editor.
2. *Measurement of Higgs boson production in the diphoton decay channel in pp collisions at center-of-mass energies of 7 and 8 TeV with the ATLAS detector* [345], contact editor.
3. *Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector* [3], editor.
4. *Measurement of the production cross section of an isolated photon associated with jets in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector* [6], contact editor.
5. *Measurement of the Higgs boson mass from the  $H \rightarrow \gamma\gamma$  and  $H \rightarrow ZZ \rightarrow 4l$  channels with the ATLAS detector using 25 fb<sup>1</sup> of pp collision data* [12], editor.
6. *Dynamics of isolated-photon plus jet production in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector* [223], editor.

7. *Measurement of the isolated di-photon cross-section in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector* [128], editor.
8. *Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector using  $4.6 \text{ fb}^{-1}$*  [300], editor.
9. *Search for new phenomena in events with isolated photons and large missing transverse momentum at 8 TeV*, in preparazione, editor.

### 2.3 PUBBLICAZIONI SCIENTIFICHE

L'elenco completo degli articoli pubblicati, dei contributi pubblici ma non pubblicati su rivista e la lista delle principali note interne (non pubbliche) sono riportati in 6.

### 2.4 RESPONSABILITÀ RICOPERTE NELL'ESPERIMENTO

All'interno dell'esperimento ATLAS ho ricoperto numerosi ruoli di responsabilità e coordinamento nel campo delle performance elettroni/fotoni e nelle principali misure con fotoni.

1. **coordinatore del working group sull'analisi del decadimento del bosone di Higgs in due fotoni** (2006-2008) : ho avuto la responsabilità della gestione del working group di ATLAS dedicato all'analisi del decadimento del bosone di Higgs in due fotoni. In questa fase sono stati approntati tutti i principali strumenti per l'analisi su dati simulati in termini di performance e potenzialità di scoperta. In particolare ho curato la stesura della sezione dedicata all'analisi del decadimento del bosone di Higgs in due fotoni in [337].
2. **convener del working group sull'analisi dei fotoni diretti** (2008-2010) : ho avuto la responsabilità della gestione del working group di ATLAS dedicato all'analisi dei fotoni diretti QCD proprio nel momento in cui è incominciata la presa dati. In questa posizione ho gestito direttamente la pubblicazione delle primissime analisi con fotoni ( misura della sezione d'urto del fotone inclusivo, misura della sezione d'urto della produzione di difotoni e misura della sezione d'urto per produzione di fotoni isolati e jets) : la pubblicazione di queste misure ha costituito il background fondamentale per le ricerche del bosone di Higgs nel canale a due fotoni.
3. **convener del working group sulla calibrazione elettroni e fotoni** (2011-2014) : in questo ruolo ho curato la revisione delle procedure di calibrazione per elettroni e fotoni in una fase critica in cui si è passati dalla scoperta del bosone di Higgs alle misure di precisione delle sue proprietà come la massa. Questo lungo progetto [12] ha permesso di ridurre drasticamente le incertezze sperimentali sulla misura della massa dell'Higgs e costituito uno degli ingredienti fondamentali per produrre la presente migliore misura discussa in [344].
4. **responsabile della produzione di simulazioni monte-carlo con fotoni** (2011-2013): sono stato responsabile per il gruppo Standard Model della creazione e validazione dei principali campioni monte-carlo con fotoni utilizzando vari generatori (PYTHIA, Herwig++, Sherpa, Alpgen)

5. **contact person per photon performance del gruppo Higgs** (2011-2013) : in questo ruolo sono stato il riferimento per il gruppo Higgs per il corretto utilizzo degli strumenti di performance relativi alla calibrazione, identificazione e isolamento del fotone nell'analisi dati.
6. **responsabile per la produzione dei dati utilizzati per l'analisi Higgs in due fotoni** (2008-2014). In questo ruolo mi sono occupato per molti anni della preparazione dei dati finali utilizzato per l'analisi, mantenendo il codice di selezione degli eventi e gestendo la produzione delle ntuple finali utilizzando strumenti di produzione grid-based.

## 2.5 ALTRE RESPONSABILITÀ

1. **deputy responsabile del centro di calcolo Tier2 di Milano** (2010-oggi) : dal 2010 ho la responsabilità della gestione del Tier2 di Milano. Il Tier2 è un centro di calcolo di media grandezza (circa 1000 job slots e 1PB di disco) inserito nella grid che ATLAS utilizza per il calcolo dell'esperimento. Il sito di Milano occupa anche una farm di calcolo dedicate agli utenti locali con circa 300 CPU ed alcune centinaia di TB di disco dedicato.

## 2.6 PARTECIPAZIONI A PROGETTI E COLLABORAZIONI

Attualmente partecipo ai seguenti progetti:

1. *Sviluppo di tecnologie per l'ottimizzazione dell'accesso ai dati di LHC, trasferibili ad altri domini scientifici, mediante l'approccio del grid e del cloud computing*, un progetto PRIN finanziato dal ministero. In particolare seguo lo sviluppo del lavoro della sezione milanese che si occupa di studiare soluzioni avanzate per l'utilizzo ottimale delle risorse di calcolo del dipartimento di fisica con soluzioni tipo Condor, Proof on Demand e cloud computing.
2. *HiggsTools: The Higgs quest, exploring electroweak symmetry breaking at the LHC*, Initial Training Network (ITN) supported by the 7th Framework Programme of the European Commission (PITN-GA-2012-316704). Il network e' dedicato a studi sulla rottura spontanea della simmetria elettrodebole attraverso il meccanismo di Higgs. La sezione di Milano di cui faccio parte si occupa della riduzione delle incertezze teoriche sulle gluon PDF per ridurre le incertezze sistematiche sulle misure di accoppiamenti del bosone di Higgs con fermioni e bosoni.

## 2.7 PRESENTAZIONI A CONFERENZE

Ho presentato a conferenze nazionali ed internazionali:

1. *Study of the  $H \rightarrow \gamma\gamma$  decay with the ATLAS detector* talk given at 12th International Workshop on Deep Inelastic Scattering (DIS 2004). Strbske Pleso, Slovakia, 14-18 April 2004
2. *Electrons and photons reconstruction in ATLAS and CMS* talk given at II workshop italiano sulla fisica di ATLAS e CMS. Napoli, Italy, 13-15 October 2004

3. *The ATLAS Liquid Argon Electromagnetic calorimeter* talk given at IFAE 2005: XVII Incontri di Fisica delle Alte Energie. Catania, MAR 30-APR 02, 2005
4. *The Calibration of the ATLAS and CMS Calorimetric Detectors* talk given at III Italian Workshop on ATLAS and CMS physics. Bari, 20-22 ottobre 2005
5. *Search for a Standard Model Higgs boson in the  $H \rightarrow \gamma\gamma$  channel with the ATLAS detector* talk given at "Physics for LHC", Cracow, Poland, July 03-08 2006,
6. *Overview of analysis models for high energy physics* talk given at IFAE 2007, Napoli, 11-13 april 2007
7. *Photon measurements in ATLAS* talk given at "US ATLAS Analysis Jamboree" 17-18 November 2010, Argonne National Laboratory, USA
8. *Physics with Photons in ATLAS* talk given at "CERN-PH LHC Seminar" on Tuesday 5th of July 2011, CERN
9. *ATLAS photon* talk given at "Standard Model Benchmarks at the Tevatron and LHC", November 19 - 20, 2010, Fermilab USA
10. *Experimental Introduction to photon physics*, talk given at "Confronting Theory with Experiment: Puzzles, Challenges and Opportunities in the LHC Era" 17-18 November, 2011, Fermilab USA
11. *Experimental problems connected to photon isolation and photon xsections*, talk given at the "Workshop on Photon Physics and Simulation at Hadron Colliders", March 30th , Parigi
12. *Photon and photon+jet production measured with the ATLAS detector*, talk give at "DIS 2012", Bonn, 26-30 March 2012
13. *Photons/Diphotons at ATLAS*, talk given at "Physics @ LHC", 2012 20th-24th August 2012 at Michigan State University
14. *Ultimi risultati dell'analisi  $H \rightarrow \gamma\gamma$  e  $H \rightarrow Z\gamma$  dall'esperimento ATLAS*, talk given at IFAE 2013, April 5th 2013, Cagliari
15. *Photon and Jet measurements in pp collisions at the LHC*, talk given at the VI Italian Workshop on p-p physics at the LHC, Genova 8th-10th May 2013.

### 3 Attività di didattica, di didattica integrativa e di servizio agli studenti

#### 3.1 CORSI ISTITUZIONALI

Ho svolto attività didattica sia nella laurea triennale e magistrale sia per il dottorato di ricerca in Fisica.

1. ho lavorato come assistente *Laboratorio di calcolo 1* (2006-2008) e al *Laboratorio di calcolo 2* (2006).

2. dal 2008 ad oggi sono titolare del corso di *Trattamento numerico dei dati sperimentali* (eccetto per l'anno accademico 2010-2011).
3. dal 2008 tengo una parte del corso di dottorato *Collider Physics* relative alla calorimetria elettromagnetica e adronica ai colliders.
4. dal 2013 tengo una parte del corso di *Rivelatori di particelle* per la laurea magistrale in Fisica.
5. dal 2014 terrò una parte di esercitazioni per il corso di *Fisica Generale 2* presso il dipartimento di Matematica.

### 3.2 SUPERVISORE SUMMER STUDENTS

Ho seguito alcuni progetti per summer students :

1. *Isolated Photon + jets cross section using Jetphox*, A. O'Toole, DOE-INFN summer students projetc, 2011.
2. *Fast photon+jet parameterisations for Higgs to diphoton background using Jetphox*, A. Fero, DOE-INFN summer students projetc, 2012.

### 3.3 TESI DI LAUREA TRIENNALE

1. *Misura della purezza di fotoni inclusivi ad ATLAS con i primi 37 pb<sup>-1</sup> di dati*, S. Mazza (Dicembre 2010).
2. *Misura della sezione d'urto per produzione di fotoni isolati ad ATLAS con i primi 37 pb<sup>-1</sup> dati*, S. Manzoni (Aprile 2011).
3. *Studio della purezza del campione di fotone inclusive del Run I di ATLAS con il metodo 2D-sidebands e caratterizzazione del modello di accesso ai dati*, E. Guiraud (Dicembre 2013).
4. *Studio della purezza del campione di fotone inclusive del Run I di ATLAS con il metodo isolation template fit e caratterizzazione del modello di accesso ai dati*, G. Parolini (Febbraio 2014).
5. *Tecniche di identificazione dei fotoni per il RUN 2 all'esperimento ATLAS ad LHC*, A. Poli (Febbraio 2015).
6. *Ricerca di risonanze ad alta massa nel canale a due fotoni in collisioni pp a  $\sqrt{s}$  TeV con il rivelatore ATLAS*, A. Martini (Febbraio 2015).

### 3.4 TESI DI LAUREA MAGISTRALE E LAUREANDI

1. *Studio delle reazioni  $Z \rightarrow \tau\tau$  con i primi dati di ATLAS ad LHC. Prova generale del canale  $A/H \rightarrow \tau\tau$* , C. Pizio (Ottobre 2007).
2. *Estimate of the QCD background with misidentified electrons in W plus jets measurements with the ATLAS detector*, Meloni Federico.



3. *Search for a Standard Model Higgs boson in the diphoton+MET channel with the ATLAS detector*, S. Mazza (Aprile 2013).
4. *Search for Higgs boson decays to a photon and a Z boson in pp collisions at center-of-mass energies of 7 and 8 TeV with the ATLAS detector*, S. Manzoni (Aprile 2013).
5. *Higgs mass measurement in the di-photons decay channel with the ATLAS experiment*, M. Rimoldi (Aprile 2013).
6. *Search for dark matter direct production in the mono-photon plus missing energy channel in pp collisions at center of mass energy of 8 TeV with the ATLAS detector*, M. Perego (Ottobre 2014).
7. *Analysis of final states with large missing transverse momentum and a high momentum photon for the search of dark matter with the ATLAS detector at the LHC*, M.G. Ratti (Ottobre 2014).
8. *Measurement of the isolated photon plus jet cross section in pp collisions at a center-of-mass energy of 8 TeV with the ATLAS detector*, S. Comotti. (Ottobre 2014)

### 3.5 TESI DI DOTTORATO, DOTTORANDI E ASSEGNISTI

1. Co-tutore della dott. R. Simoniello, dottoranda con una tesi dal titolo *MET performance studies for the  $H \rightarrow \tau\tau$  search in ATLAS*, ( 2010-2013 ).
2. Tutore del dott. S. Mazza, dottorando ( in corso ).
3. Tutore del dott. S. Manzoni, dottorando ( in corso ).
4. Tutore del dott. M.G. Ratti, dottoranda ( in corso ).
5. Supervisore della dott. C. Pizio, assegnista universitaria (2013-2014).
6. Ho supervisionato il lavoro di una borsista INFN, dott. Iro Koletsou (2010-2012).

### 3.6 PARTECIPAZIONE A COMMISSIONI DI DOTTORATO EXTRA DIPARTIMENTO

Ho preso parte ad alcune commissioni di dottorato esterne ai dipartimenti di Fisica di Milano :

1. Università di Parigi XI : Recherche du boson de Higgs dans le canal diphoton au LHC avec le detecteur ATLAS, dott. Iro Koletsou (2008)
2. Università di Pavia : Ricerche di supersimmetria con il rivelatore ATLAS, dott. F. Uslenghi (2012)

## 4 Attività istituzionali, organizzative e di servizio

### 4.1 EVENTI ORGANIZZATI

Ho organizzato alcuni eventi scientifici :

1. Comitato organizzatore di *ATLAS Egamma performance workshop* ( Belgirate, 24-28 ottobre 2011 )
2. Comitato organizzatore di *Mini-workshop on photon physics* ( Milano, gennaio 2011 )
3. *Latest update in the search for the Higgs boson* ( Milano, 4 luglio 2012 )
4. Convener della sessione EW a IFAE 2013, Cagliari
5. Comitato organizzatore del *Workshop on Photon Physics at the LHC* (Paris, 18-19 maggio 2015)

### 4.2 COLLABORAZIONI CON RIVISTE SCIENTIFICHE

1. Collaboro come revisore alla rivista internazionale *Physics Letters B*, Elsevier (IF 6.019)

## 5 Altre informazioni

Mi occupo attivamente di divulgazione scientifica: tra le varie conferenze e incontri divulgativi vorrei citare l'organizzazione della sessione milanese della *physics masterclass* (<http://www.physicsmasterclasses.org>), la partecipazione al percorso *Learning Week 2012 - Oltre i miei confini: orientamento Lungo le frontiere della fisica*, organizzato dalla provincia di Milano. Ho partecipato ad eventi di divulgazione organizzati dall'università di Milano come la notte europea dei ricercatori e agli spettacoli *Facciamo luce sulla materia*.

Ho collaborato con il Cern Courier (<http://cerncourier.com/cws/latest/cern>)

## 6 Riferimenti bibliografici

Elenco separatamente le 12 pubblicazioni che ritengo più importanti e rappresentative della mia attività di ricerca. Riporto in seguito l'elenco completo degli articoli pubblicati su rivista, l'elenco dei contributi pubblici non pubblicati e infine la lista delle note interne di esperimento (non pubbliche) di cui sono autore.

### PUBBLICAZIONI SELEZIONATE

- [1] G. Aad et al. "The ATLAS Experiment at the CERN Large Hadron Collider". In: *JINST* 3 (2008), S08003. DOI: 10.1088/1748-0221/3/08/S08003.
- [2] G. Aad et al. "The ATLAS Simulation Infrastructure". In: *Eur.Phys.J. C* 70 (2010), pp. 823-874. DOI: 10.1140/epjc/s10052-010-1429-9. arXiv:1005.4568 [physics.ins-det].

- [3] G. Aad et al. “Measurement of the inclusive isolated prompt photon cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D83 (2011), p. 052005. DOI: 10.1103/PhysRevD.83.052005. arXiv:1012.4389 [hep-ex].
- [4] G. Aad et al. “Combined search for the Standard Model Higgs boson using up to  $4.9 \text{ fb}^{-1}$  of  $pp$  collision data at  $\sqrt{s} = 7$  TeV with the ATLAS detector at the LHC”. In: *Phys.Lett.* B710 (2012), pp. 49–66. DOI: 10.1016/j.physletb.2012.02.044. arXiv:1202.1408 [hep-ex].
- [5] G. Aad et al. “Electron performance measurements with the ATLAS detector using the 2010 LHC proton-proton collision data”. In: *Eur.Phys.J.* C72 (2012), p. 1909. DOI: 10.1140/epjc/s10052-012-1909-1. arXiv:1110.3174 [hep-ex].
- [6] G. Aad et al. “Measurement of the production cross section of an isolated photon associated with jets in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 092014. DOI: 10.1103/PhysRevD.85.092014. arXiv:1203.3161 [hep-ex].
- [7] G. Aad et al. “Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC”. In: *Phys.Lett.* B716 (2012), pp. 1–29. DOI: 10.1016/j.physletb.2012.08.020. arXiv:1207.7214 [hep-ex].
- [8] G. Aad et al. “Search for the Standard Model Higgs boson in the diphoton decay channel with  $4.9 \text{ fb}^{-1}$  of  $pp$  collisions at  $\sqrt{s} = 7$  TeV with ATLAS”. In: *Phys.Rev.Lett.* 108 (2012), p. 111803. DOI: 10.1103/PhysRevLett.108.111803. arXiv:1202.1414 [hep-ex].
- [9] G. Aad et al. “Measurements of Higgs boson production and couplings in di-boson final states with the ATLAS detector at the LHC”. In: *Phys.Lett.* B726 (2013), pp. 88–119. DOI: 10.1016/j.physletb.2013.08.010. arXiv:1307.1427 [hep-ex].
- [10] G. Aad et al. “Search for dark matter candidates and large extra dimensions in events with a photon and missing transverse momentum in  $pp$  collision data at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 110 (2013), p. 011802. DOI: 10.1103/PhysRevLett.110.011802. arXiv:1209.4625 [hep-ex].
- [11] L. Carminati et al. “Sensitivity of the LHC isolated-gamma+jet data to the parton distribution functions of the proton”. In: *EPL* 101 (2013), p. 61002. DOI: 10.1209/0295-5075/101/61002. arXiv:1212.5511.
- [12] G. Aad et al. “Measurement of the Higgs boson mass from the  $H \rightarrow \gamma\gamma$  and  $H \rightarrow ZZ^* \rightarrow 4\ell$  channels with the ATLAS detector using  $25 \text{ fb}^{-1}$  of  $pp$  collision data”. In: *Phys.Rev.* D90 (2014). PRD Editors’ Suggestion, p. 052004. DOI: 10.1103/PhysRevD.90.052004. arXiv:1406.3827 [hep-ex].

#### PUBBLICAZIONI

- [13] B. Aubert et al. “Performance of the ATLAS electromagnetic calorimeter barrel module 0”. In: *Nucl.Instrum.Meth.* A500 (2003), pp. 202–231. DOI: 10.1016/S0168-9002(03)00345-0.

- [14] B. Aubert et al. “Performance of the ATLAS electromagnetic calorimeter end-cap module 0”. In: *Nucl.Instrum.Meth.* A500 (2003), pp. 178–201. DOI: 10.1016/S0168-9002(03)00344-9.
- [15] B. Aubert et al. “Development and construction of large size signal electrodes for the ATLAS electromagnetic calorimeter”. In: *Nucl.Instrum.Meth.* A539 (2005), pp. 558–594. DOI: 10.1016/j.nima.2004.11.005.
- [16] J. Colas et al. “Position resolution and particle identification with the ATLAS EM calorimeter”. In: *Nucl.Instrum.Meth.* A550 (2005), pp. 96–115. DOI: 10.1016/j.nima.2005.05.041. arXiv:physics/0505127 [physics].
- [17] M. Aharrouche et al. “Energy linearity and resolution of the ATLAS electromagnetic barrel calorimeter in an electron test-beam”. In: *Nucl.Instrum.Meth.* A568 (2006), pp. 601–623. DOI: 10.1016/j.nima.2006.07.053. arXiv:physics/0608012 [physics].
- [18] B. Aubert et al. “Construction, assembly and tests of the ATLAS electromagnetic barrel calorimeter”. In: *Nucl.Instrum.Meth.* A558 (2006), pp. 388–418. DOI: 10.1016/j.nima.2005.11.212.
- [19] L. Carminati. “Search for a standard model Higgs boson in the  $H \rightarrow \gamma \gamma$ ; gamma gamma channel with the ATLAS detector”. In: *Acta Phys.Polon.* B38 (2007), pp. 747–754.
- [20] J. Colas et al. “Response Uniformity of the ATLAS Liquid Argon Electromagnetic Calorimeter”. In: *Nucl.Instrum.Meth.* A582 (2007), pp. 429–455. DOI: 10.1016/j.nima.2007.08.157. arXiv:0709.1094 [physics.ins-det].
- [21] M. Aharrouche et al. “Time resolution of the ATLAS barrel liquid argon electromagnetic calorimeter”. In: *Nucl.Instrum.Meth.* A597 (2008), pp. 178–188. DOI: 10.1016/j.nima.2008.08.142.
- [22] M. Aleksa et al. “Construction, assembly and tests of the ATLAS electromagnetic end-cap calorimeters”. In: *JINST* 3 (2008), P06002. DOI: 10.1088/1748-0221/3/06/P06002.
- [23] N. Buchanan et al. “Design and implementation of the Front End Board for the readout of the ATLAS liquid argon calorimeters”. In: *JINST* 3 (2008), P03004. DOI: 10.1088/1748-0221/3/03/P03004.
- [24] E. Abat et al. “Study of the response of the ATLAS central calorimeter to pions of energies from 3 to 9 GeV”. In: *Nucl.Instrum.Meth.* A607 (2009), pp. 372–386. DOI: 10.1016/j.nima.2009.05.158.
- [25] M. Aharrouche et al. “Study of the response of ATLAS electromagnetic liquid argon calorimeters to muons”. In: *Nucl.Instrum.Meth.* A606 (2009), pp. 419–431. DOI: 10.1016/j.nima.2009.05.021.
- [26] G. Aad et al. “Charged-particle multiplicities in  $pp$  interactions at  $\sqrt{s} = 900$  GeV measured with the ATLAS detector at the LHC”. In: *Phys.Lett.* B688 (2010), pp. 21–42. DOI: 10.1016/j.physletb.2010.03.064. arXiv:1003.3124 [hep-ex].
- [27] G. Aad et al. “Commissioning of the ATLAS Muon Spectrometer with Cosmic Rays”. In: *Eur.Phys.J.* C70 (2010), pp. 875–916. DOI: 10.1140/epjc/s10052-010-1415-2. arXiv:1006.4384 [physics.ins-det].

- [28] G. Aad et al. “Drift Time Measurement in the ATLAS Liquid Argon Electromagnetic Calorimeter using Cosmic Muons”. In: *Eur.Phys.J. C70* (2010), pp. 755–785. DOI: 10.1140/epjc/s10052-010-1403-6. arXiv:1002.4189 [physics.ins-det].
- [29] G. Aad et al. “Measurement of the  $W \rightarrow \ell\nu$  and  $Z/\gamma^* \rightarrow \ell\ell$  production cross sections in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1012 (2010), p. 060. DOI: 10.1007/JHEP12(2010)060. arXiv:1010.2130 [hep-ex].
- [30] G. Aad et al. “Performance of the ATLAS Detector using First Collision Data”. In: *JHEP* 1009 (2010), p. 056. DOI: 10.1007/JHEP09(2010)056. arXiv:1005.5254 [hep-ex].
- [31] G. Aad et al. “Readiness of the ATLAS Liquid Argon Calorimeter for LHC Collisions”. In: *Eur.Phys.J. C70* (2010), pp. 723–753. DOI: 10.1140/epjc/s10052-010-1354-y. arXiv:0912.2642 [physics.ins-det].
- [32] G. Aad et al. “Readiness of the ATLAS Tile Calorimeter for LHC collisions”. In: *Eur.Phys.J. C70* (2010), pp. 1193–1236. DOI: 10.1140/epjc/s10052-010-1508-y. arXiv:1007.5423 [physics.ins-det].
- [33] G. Aad et al. “Search for New Particles in Two-Jet Final States in 7 TeV Proton-Proton Collisions with the ATLAS Detector at the LHC”. In: *Phys.Rev.Lett.* 105 (2010), p. 161801. DOI: 10.1103/PhysRevLett.105.161801. arXiv:1008.2461 [hep-ex].
- [34] G. Aad et al. “The ATLAS Inner Detector commissioning and calibration”. In: *Eur.Phys.J. C70* (2010), pp. 787–821. DOI: 10.1140/epjc/s10052-010-1366-7. arXiv:1004.5293 [physics.ins-det].
- [35] G. Aad et al. “Observation of a Centrality-Dependent Dijet Asymmetry in Lead-Lead Collisions at  $\sqrt{s_{NN}} = 2.77$  TeV with the ATLAS Detector at the LHC”. In: *Phys.Rev.Lett.* 105 (2010), p. 252303. DOI: 10.1103/PhysRevLett.105.252303. arXiv:1011.6182 [hep-ex].
- [36] E. Abat et al. “Combined performance studies for electrons at the 2004 ATLAS combined test-beam”. In: *JINST* 5 (2010), P11006. DOI: 10.1088/1748-0221/5/11/P11006.
- [37] E. Abat et al. “Study of energy response and resolution of the ATLAS barrel calorimeter to hadrons of energies from 20-GeV to 350-GeV”. In: *Nucl.Instrum.Meth.* A621 (2010), pp. 134–150. DOI: 10.1016/j.nima.2010.04.054.
- [38] H. Abreu et al. “Performance of the electronic readout of the ATLAS liquid argon calorimeters”. In: *JINST* 5 (2010), P09003. DOI: 10.1088/1748-0221/5/09/P09003.
- [39] M. Aharrouche et al. “Measurement of the response of the ATLAS liquid argon barrel calorimeter to electrons at the 2004 combined test-beam”. In: *Nucl.Instrum.Meth.* A614 (2010), pp. 400–432. DOI: 10.1016/j.nima.2009.12.055.
- [40] G. Aad et al. “Charged-particle multiplicities in pp interactions measured with the ATLAS detector at the LHC”. In: *New J.Phys.* 13 (2011), p. 053033. DOI: 10.1088/1367-2630/13/5/053033. arXiv:1012.5104 [hep-ex].

- [41] G. Aad et al. “Measurement of inclusive jet and dijet cross sections in proton-proton collisions at 7 TeV centre-of-mass energy with the ATLAS detector”. In: *Eur.Phys.J.* C71 (2011), p. 1512. DOI: 10.1140/epjc/s10052-010-1512-2. arXiv:1009.5908 [hep-ex].
- [42] G. Aad et al. “Measurement of the centrality dependence of  $J/\psi$  yields and observation of Z production in lead-lead collisions with the ATLAS detector at the LHC”. In: *Phys.Lett.* B697 (2011), pp. 294–312. DOI: 10.1016/j.physletb.2011.02.006. arXiv:1012.5419 [hep-ex].
- [43] G. Aad et al. “Search for Quark Contact Interactions in Dijet Angular Distributions in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV Measured with the ATLAS Detector”. In: *Phys.Lett.* B694 (2011), pp. 327–345. DOI: 10.1016/j.physletb.2010.10.021. arXiv:1009.5069 [hep-ex].
- [44] G. Aad et al. “Studies of the performance of the ATLAS detector using cosmic-ray muons”. In: *Eur.Phys.J.* C71 (2011), p. 1593. DOI: 10.1140/epjc/s10052-011-1593-6. arXiv:1011.6665 [physics.ins-det].
- [45] G. Aad et al. “Study of Jet Shapes in Inclusive Jet Production in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV using the ATLAS Detector”. In: *Phys.Rev.* D83 (2011), p. 052003. DOI: 10.1103/PhysRevD.83.052003. arXiv:1101.0070 [hep-ex].
- [46] G. Aad et al. “Inclusive search for same-sign dilepton signatures in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1110 (2011), p. 107. DOI: 10.1007/JHEP10(2011)107. arXiv:1108.0366 [hep-ex].
- [47] G. Aad et al. “Limits on the production of the Standard Model Higgs Boson in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J.* C71 (2011), p. 1728. DOI: 10.1140/epjc/s10052-011-1728-9. arXiv:1106.2748 [hep-ex].
- [48] G. Aad et al. “Luminosity Determination in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV Using the ATLAS Detector at the LHC”. In: *Eur.Phys.J.* C71 (2011), p. 1630. DOI: 10.1140/epjc/s10052-011-1630-5. arXiv:1101.2185 [hep-ex].
- [49] G. Aad et al. “Measurement of Dijet Azimuthal Decorrelations in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV”. In: *Phys.Rev.Lett.* 106 (2011), p. 172002. DOI: 10.1103/PhysRevLett.106.172002. arXiv:1102.2696 [hep-ex].
- [50] G. Aad et al. “Measurement of dijet production with a veto on additional central jet activity in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *JHEP* 1109 (2011), p. 053. DOI: 10.1007/JHEP09(2011)053. arXiv:1107.1641 [hep-ex].
- [51] G. Aad et al. “Measurement of multi-jet cross sections in proton-proton collisions at a 7 TeV center-of-mass energy”. In: *Eur.Phys.J.* C71 (2011), p. 1763. DOI: 10.1140/epjc/s10052-011-1763-6. arXiv:1107.2092 [hep-ex].
- [52] G. Aad et al. “Measurement of the differential cross-sections of inclusive, prompt and non-prompt  $J/\psi$  production in proton-proton collisions at  $\sqrt{s} = 7$  TeV”. In: *Nucl.Phys.* B850 (2011), pp. 387–444. DOI: 10.1016/j.nuclphysb.2011.05.015. arXiv:1104.3038 [hep-ex].

- [53] G. Aad et al. “Measurement of the inclusive and dijet cross-sections of  $b^-$  jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J.* C71 (2011), p. 1846. DOI: 10.1140/epjc/s10052-011-1846-4. arXiv:1109.6833 [hep-ex].
- [54] G. Aad et al. “Measurement of the inclusive isolated prompt photon cross-section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using 35 pb<sup>-1</sup> of ATLAS data”. In: *Phys.Lett.* B706 (2011), pp. 150–167. DOI: 10.1016/j.physletb.2011.11.010. arXiv:1108.0253 [hep-ex].
- [55] G. Aad et al. “Measurement of the Inelastic Proton-Proton Cross-Section at  $\sqrt{s} = 7$  TeV with the ATLAS Detector”. In: *Nature Commun.* 2 (2011), p. 463. DOI: 10.1038/ncomms1472. arXiv:1104.0326 [hep-ex].
- [56] G. Aad et al. “Measurement of the jet fragmentation function and transverse profile in proton-proton collisions at a center-of-mass energy of 7 TeV with the ATLAS detector”. In: *Eur.Phys.J.* C71 (2011), p. 1795. DOI: 10.1140/epjc/s10052-011-1795-y. arXiv:1109.5816 [hep-ex].
- [57] G. Aad et al. “Measurement of the Muon Charge Asymmetry from W Bosons Produced in pp Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B701 (2011), pp. 31–49. DOI: 10.1016/j.physletb.2011.05.024. arXiv:1103.2929 [hep-ex].
- [58] G. Aad et al. “Measurement of the production cross section for  $W^-$  bosons in association with jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B698 (2011), pp. 325–345. DOI: 10.1016/j.physletb.2011.03.012. arXiv:1012.5382 [hep-ex].
- [59] G. Aad et al. “Measurement of the top quark-pair production cross section with ATLAS in pp collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J.* C71 (2011), p. 1577. DOI: 10.1140/epjc/s10052-011-1577-6. arXiv:1012.1792 [hep-ex].
- [60] G. Aad et al. “Measurement of the transverse momentum distribution of  $Z/\gamma^*$  bosons in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B705 (2011), pp. 415–434. DOI: 10.1016/j.physletb.2011.10.018. arXiv:1107.2381 [hep-ex].
- [61] G. Aad et al. “Measurement of the  $v_{1S}$  Production Cross-Section in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV in ATLAS”. In: *Phys.Lett.* B705 (2011), pp. 9–27. DOI: 10.1016/j.physletb.2011.09.092. arXiv:1106.5325 [hep-ex].
- [62] G. Aad et al. “Measurement of the  $WW$  cross section in  $\sqrt{s} = 7$  TeV  $pp$  collisions with ATLAS”. In: *Phys.Rev.Lett.* 107 (2011), p. 041802. DOI: 10.1103/PhysRevLett.107.041802. arXiv:1104.5225 [hep-ex].
- [63] G. Aad et al. “Measurement of the Z to tau tau Cross Section with the ATLAS Detector”. In: *Phys.Rev.* D84 (2011), p. 112006. DOI: 10.1103/PhysRevD.84.112006. arXiv:1108.2016 [hep-ex].
- [64] G. Aad et al. “Measurement of underlying event characteristics using charged particles in pp collisions at  $\sqrt{s} = 900\text{GeV}$  and 7 TeV with the ATLAS detector”. In: *Phys.Rev.* D83 (2011), p. 112001. DOI: 10.1103/PhysRevD.83.112001. arXiv:1012.0791 [hep-ex].

- [65] G. Aad et al. “Measurement of  $W$ gamma and  $Z$ gamma production in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector”. In: *JHEP* 1109 (2011), p. 072. DOI: 10.1007/JHEP09(2011)072. arXiv:1106.1592 [hep-ex].
- [66] G. Aad et al. “Measurements of underlying-event properties using neutral and charged particles in  $pp$  collisions at 900 GeV and 7 TeV with the ATLAS detector at the LHC”. In: *Eur.Phys.J.* C71 (2011), p. 1636. DOI: 10.1140/epjc/s10052-011-1636-z. arXiv:1103.1816 [hep-ex].
- [67] G. Aad et al. “Properties of jets measured from tracks in proton-proton collisions at center-of-mass energy  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D84 (2011), p. 054001. DOI: 10.1103/PhysRevD.84.054001. arXiv:1107.3311 [hep-ex].
- [68] G. Aad et al. “Search for a heavy gauge boson decaying to a charged lepton and a neutrino in 1 fb<sup>-1</sup> of  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Phys.Lett.* B705 (2011), pp. 28–46. DOI: 10.1016/j.physletb.2011.09.093. arXiv:1108.1316 [hep-ex].
- [69] G. Aad et al. “Search for a heavy neutral particle decaying into an electron and a muon using 1 fb<sup>-1</sup> of ATLAS data”. In: *Eur.Phys.J.* C71 (2011), p. 1809. DOI: 10.1140/epjc/s10052-011-1809-9. arXiv:1109.3089 [hep-ex].
- [70] G. Aad et al. “Search for a heavy particle decaying into an electron and a muon with the ATLAS detector in  $\sqrt{s} = 7$  TeV  $pp$  collisions at the LHC”. In: *Phys.Rev.Lett.* 106 (2011), p. 251801. DOI: 10.1103/PhysRevLett.106.251801. arXiv:1103.5559 [hep-ex].
- [71] G. Aad et al. “Search for a Standard Model Higgs boson in the  $H \rightarrow ZZ \rightarrow l^+l^- \nu\nu$  decay channel with the ATLAS detector”. In: *Phys.Rev.Lett.* 107 (2011), p. 221802. DOI: 10.1103/PhysRevLett.107.221802. arXiv:1109.3357 [hep-ex].
- [72] G. Aad et al. “Search for an excess of events with an identical flavour lepton pair and significant missing transverse momentum in  $\sqrt{s} = 7$  TeV proton-proton collisions with the ATLAS detector”. In: *Eur.Phys.J.* C71 (2011), p. 1647. DOI: 10.1140/epjc/s10052-011-1647-9. arXiv:1103.6208 [hep-ex].
- [73] G. Aad et al. “Search for Contact Interactions in Dimuon Events from  $pp$  Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector”. In: *Phys.Rev.* D84 (2011), p. 011101. DOI: 10.1103/PhysRevD.84.011101. arXiv:1104.4398 [hep-ex].
- [74] G. Aad et al. “Search for dilepton resonances in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 107 (2011), p. 272002. DOI: 10.1103/PhysRevLett.107.272002. arXiv:1108.1582 [hep-ex].
- [75] G. Aad et al. “Search for Diphoton Events with Large Missing Transverse Energy in 7 TeV Proton-Proton Collisions with the ATLAS Detector”. In: *Phys.Rev.Lett.* 106 (2011), p. 121803. DOI: 10.1103/PhysRevLett.106.121803. arXiv:1012.4272 [hep-ex].
- [76] G. Aad et al. “Search for Diphoton Events with Large Missing Transverse Energy with 36 pb<sup>-1</sup> of 7 TeV Proton-Proton Collision Data with the ATLAS Detector”. In: *Eur.Phys.J.* C71 (2011), p. 1744. DOI: 10.1140/epjc/s10052-011-1744-9. arXiv:1107.0561 [hep-ex].



- [77] G. Aad et al. “Search for Heavy Long-Lived Charged Particles with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Phys.Lett.* B703 (2011), pp. 428–446. DOI: 10.1016/j.physletb.2011.08.042. arXiv:1106.4495 [hep-ex].
- [78] G. Aad et al. “Search for high mass dilepton resonances in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS experiment”. In: *Phys.Lett.* B700 (2011), pp. 163–180. DOI: 10.1016/j.physletb.2011.04.044. arXiv:1103.6218 [hep-ex].
- [79] G. Aad et al. “Search for high-mass states with one lepton plus missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B701 (2011), pp. 50–69. DOI: 10.1016/j.physletb.2011.05.043. arXiv:1103.1391 [hep-ex].
- [80] G. Aad et al. “Search for Massive Colored Scalars in Four-Jet Final States in  $\sqrt{s} = 7$  TeV proton-proton collisions with the ATLAS Detector”. In: *Eur.Phys.J.* C71 (2011), p. 1828. DOI: 10.1140/epjc/s10052-011-1828-6. arXiv:1110.2693 [hep-ex].
- [81] G. Aad et al. “Search for Massive Long-lived Highly Ionising Particles with the ATLAS Detector at the LHC”. In: *Phys.Lett.* B698 (2011), pp. 353–370. DOI: 10.1016/j.physletb.2011.03.033. arXiv:1102.0459 [hep-ex].
- [82] G. Aad et al. “Search for neutral MSSM Higgs bosons decaying to  $\tau^+\tau^-$  pairs in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B705 (2011), pp. 174–192. DOI: 10.1016/j.physletb.2011.10.001. arXiv:1107.5003 [hep-ex].
- [83] G. Aad et al. “Search for new phenomena in final states with large jet multiplicities and missing transverse momentum using  $\sqrt{s} = 7$  TeV  $pp$  collisions with the ATLAS detector”. In: *JHEP* 1111 (2011), p. 099. DOI: 10.1007/JHEP11(2011)099. arXiv:1110.2299 [hep-ex].
- [84] G. Aad et al. “Search for new phenomena with the monojet and missing transverse momentum signature using the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Phys.Lett.* B705 (2011), pp. 294–312. DOI: 10.1016/j.physletb.2011.10.006. arXiv:1106.5327 [hep-ex].
- [85] G. Aad et al. “Search for New Physics in Dijet Mass and Angular Distributions in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV Measured with the ATLAS Detector”. In: *New J.Phys.* 13 (2011), p. 053044. DOI: 10.1088/1367-2630/13/5/053044. arXiv:1103.3864 [hep-ex].
- [86] G. Aad et al. “Search for pair production of first or second generation leptoquarks in proton-proton collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector at the LHC”. In: *Phys.Rev.* D83 (2011), p. 112006. DOI: 10.1103/PhysRevD.83.112006. arXiv:1104.4481 [hep-ex].
- [87] G. Aad et al. “Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Phys.Lett.* B701 (2011), pp. 186–203. DOI: 10.1016/j.physletb.2011.05.061. arXiv:1102.5290 [hep-ex].
- [88] G. Aad et al. “Search for stable hadronising squarks and gluinos with the ATLAS experiment at the LHC”. In: *Phys.Lett.* B701 (2011), pp. 1–19. DOI: 10.1016/j.physletb.2011.05.010. arXiv:1103.1984 [hep-ex].

- [89] G. Aad et al. “Search for supersymmetric particles in events with lepton pairs and large missing transverse momentum in  $\sqrt{s} = 7$  TeV proton-proton collisions with the ATLAS experiment”. In: *Eur.Phys.J.* C71 (2011), p. 1682. DOI: 10.1140/epjc/s10052-011-1682-6. arXiv:1103.6214 [hep-ex].
- [90] G. Aad et al. “Search for supersymmetry in  $pp$  collisions at  $\sqrt{s} = 7$ TeV in final states with missing transverse momentum and  $b^-$  jets”. In: *Phys.Lett.* B701 (2011), pp. 398–416. DOI: 10.1016/j.physletb.2011.06.015. arXiv:1103.4344 [hep-ex].
- [91] G. Aad et al. “Search for supersymmetry using final states with one lepton, jets, and missing transverse momentum with the ATLAS detector in  $\sqrt{s} = 7$  TeV  $pp$ ”. In: *Phys.Rev.Lett.* 106 (2011), p. 131802. DOI: 10.1103/PhysRevLett.106.131802. arXiv:1102.2357 [hep-ex].
- [92] G. Aad et al. “Search for the Higgs boson in the  $H^- \rightarrow WW^- \rightarrow lvjj$  decay channel in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 107 (2011), p. 231801. DOI: 10.1103/PhysRevLett.107.231801. arXiv:1109.3615 [hep-ex].
- [93] G. Aad et al. “Search for the Standard Model Higgs boson in the decay channel  $H \rightarrow ZZ(*) \rightarrow 4l$  with the ATLAS detector”. In: *Phys.Lett.* B705 (2011), pp. 435–451. DOI: 10.1016/j.physletb.2011.10.034. arXiv:1109.5945 [hep-ex].
- [94] G. Aad et al. “Search for the Standard Model Higgs boson in the two photon decay channel with the ATLAS detector at the LHC”. In: *Phys.Lett.* B705 (2011), pp. 452–470. DOI: 10.1016/j.physletb.2011.10.051. arXiv:1108.5895 [hep-ex].
- [95] E. Abat et al. “A Layer Correlation technique for pion energy calibration at the 2004 ATLAS Combined Beam Test”. In: *JINST* 6 (2011), P06001. DOI: 10.1088/1748-0221/6/06/P06001. arXiv:1012.4305 [physics.ins-det].
- [96] E. Abat et al. “Photon reconstruction in the ATLAS inner detector and liquid argon barrel calorimeter at the 2004 combined test beam”. In: *JINST* 6 (2011), P04001. DOI: 10.1088/1748-0221/6/04/P04001.
- [97] G. Aad et al. “A measurement of the ratio of the  $W$  and  $Z$  cross sections with exactly one associated jet in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with ATLAS”. In: *Phys.Lett.* B708 (2012), pp. 221–240. DOI: 10.1016/j.physletb.2012.01.042. arXiv:1108.4908 [hep-ex].
- [98] G. Aad et al. “A particle consistent with the Higgs Boson observed with the ATLAS Detector at the Large Hadron Collider”. In: *Science* 338 (2012), pp. 1576–1582. DOI: 10.1126/science.1232005.
- [99] G. Aad et al. “A search for flavour changing neutral currents in top-quark decays in  $pp$  collision data collected with the ATLAS detector at  $\sqrt{s} = 7$  TeV”. In: *JHEP* 1209 (2012), p. 139. DOI: 10.1007/JHEP09(2012)139. arXiv:1206.0257 [hep-ex].
- [100] G. Aad et al. “A search for  $t\bar{t}$  resonances in lepton+jets events with highly boosted top quarks collected in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1209 (2012), p. 041. DOI: 10.1007/JHEP09(2012)041. arXiv:1207.2409 [hep-ex].

- [101] G. Aad et al. “A search for  $t\bar{t}$  resonances with the ATLAS detector in  $2.05 \text{ fb}^{-1}$  of proton-proton collisions at  $\sqrt{s} = 7 \text{ TeV}$ ”. In: *Eur.Phys.J. C* **72** (2012), p. 2083. DOI: 10.1140/epjc/s10052-012-2083-1. arXiv:1205.5371 [hep-ex].
- [102] G. Aad et al. “A study of the material in the ATLAS inner detector using secondary hadronic interactions”. In: *JINST* **7** (2012), P01013. DOI: 10.1088/1748-0221/7/01/P01013. arXiv:1110.6191 [hep-ex].
- [103] G. Aad et al. “ATLAS measurements of the properties of jets for boosted particle searches”. In: *Phys.Rev. D* **86** (2012), p. 072006. DOI: 10.1103/PhysRevD.86.072006. arXiv:1206.5369 [hep-ex].
- [104] G. Aad et al. “ATLAS search for a heavy gauge boson decaying to a charged lepton and a neutrino in  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$ ”. In: *Eur.Phys.J. C* **72** (2012), p. 2241. DOI: 10.1140/epjc/s10052-012-2241-5. arXiv:1209.4446 [hep-ex].
- [105] G. Aad et al. “Combined search for the Standard Model Higgs boson in  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$  with the ATLAS detector”. In: *Phys.Rev. D* **86** (2012), p. 032003. DOI: 10.1103/PhysRevD.86.032003. arXiv:1207.0319 [hep-ex].
- [106] G. Aad et al. “Determination of the strange quark density of the proton from ATLAS measurements of the  $W \rightarrow \ell\nu$  and  $Z \rightarrow \ell\ell$  cross sections”. In: *Phys.Rev.Lett.* **109** (2012), p. 012001. DOI: 10.1103/PhysRevLett.109.012001. arXiv:1203.4051 [hep-ex].
- [107] G. Aad et al. “Evidence for the associated production of a  $W$  boson and a top quark in ATLAS at  $\sqrt{s} = 7 \text{ TeV}$ ”. In: *Phys.Lett. B* **716** (2012), pp. 142–159. DOI: 10.1016/j.physletb.2012.08.011. arXiv:1205.5764 [hep-ex].
- [108] G. Aad et al. “Forward-backward correlations and charged-particle azimuthal distributions in  $pp$  interactions using the ATLAS detector”. In: *JHEP* **1207** (2012), p. 019. DOI: 10.1007/JHEP07(2012)019. arXiv:1203.3100 [hep-ex].
- [109] G. Aad et al. “Further search for supersymmetry at  $\sqrt{s} = 7 \text{ TeV}$  in final states with jets, missing transverse momentum and isolated leptons with the ATLAS detector”. In: *Phys.Rev. D* **86** (2012), p. 092002. DOI: 10.1103/PhysRevD.86.092002. arXiv:1208.4688 [hep-ex].
- [110] G. Aad et al. “Hunt for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS in  $4.7 \text{ fb}^{-1}$  of  $\sqrt{s} = 7 \text{ TeV}$  proton-proton collisions”. In: *JHEP* **1207** (2012), p. 167. DOI: 10.1007/JHEP07(2012)167. arXiv:1206.1760 [hep-ex].
- [111] G. Aad et al. “Jet mass and substructure of inclusive jets in  $\sqrt{s} = 7 \text{ TeV}$   $pp$  collisions with the ATLAS experiment”. In: *JHEP* **1205** (2012), p. 128. DOI: 10.1007/JHEP05(2012)128. arXiv:1203.4606 [hep-ex].
- [112] G. Aad et al. “Kshort and  $\Lambda$  production in  $pp$  interactions at  $\sqrt{s} = 0.9$  and  $7 \text{ TeV}$  measured with the ATLAS detector at the LHC”. In: *Phys.Rev. D* **85** (2012), p. 012001. DOI: 10.1103/PhysRevD.85.012001. arXiv:1111.1297 [hep-ex].
- [113] G. Aad et al. “Measurement of  $D^{*+/-}$  meson production in jets from  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$  with the ATLAS detector”. In: *Phys.Rev. D* **85** (2012), p. 052005. DOI: 10.1103/PhysRevD.85.052005. arXiv:1112.4432 [hep-ex].

- [114] G. Aad et al. “Measurement of event shapes at large momentum transfer with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J.* C72 (2012), p. 2211. DOI: 10.1140/epjc/s10052-012-2211-y. arXiv:1206.2135 [hep-ex].
- [115] G. Aad et al. “Measurement of inclusive jet and dijet production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Phys.Rev.* D86 (2012), p. 014022. DOI: 10.1103/PhysRevD.86.014022. arXiv:1112.6297 [hep-ex].
- [116] G. Aad et al. “Measurement of inclusive two-particle angular correlations in pp collisions with the ATLAS detector at the LHC”. In: *JHEP* 1205 (2012), p. 157. DOI: 10.1007/JHEP05(2012)157. arXiv:1203.3549 [hep-ex].
- [117] G. Aad et al. “Measurement of  $t\bar{t}$  production with a veto on additional central jet activity in pp collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Eur.Phys.J.* C72 (2012), p. 2043. DOI: 10.1140/epjc/s10052-012-2043-9. arXiv:1203.5015 [hep-ex].
- [118] G. Aad et al. “Measurement of  $\tau$  polarization in  $W^- \rightarrow \tau\nu$  decays with the ATLAS detector in pp collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J.* C72 (2012), p. 2062. DOI: 10.1140/epjc/s10052-012-2062-6. arXiv:1204.6720 [hep-ex].
- [119] G. Aad et al. “Measurement of the azimuthal anisotropy for charged particle production in  $\sqrt{s_{NN}} = 2.76$  TeV lead-lead collisions with the ATLAS detector”. In: *Phys.Rev.* C86 (2012), p. 014907. DOI: 10.1103/PhysRevC.86.014907. arXiv:1203.3087 [hep-ex].
- [120] G. Aad et al. “Measurement of the azimuthal ordering of charged hadrons with the ATLAS detector”. In: *Phys.Rev.* D86 (2012), p. 052005. DOI: 10.1103/PhysRevD.86.052005. arXiv:1203.0419 [hep-ex].
- [121] G. Aad et al. “Measurement of the b-hadron production cross section using decays to  $D^*\mu^-X$  final states in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Nucl.Phys.* B864 (2012), pp. 341–381. DOI: 10.1016/j.nuclphysb.2012.07.009. arXiv:1206.3122 [hep-ex].
- [122] G. Aad et al. “Measurement of the centrality dependence of the charged particle pseudorapidity distribution in lead-lead collisions at  $\sqrt{s_{NN}} = 2.76$  TeV with the ATLAS detector”. In: *Phys.Lett.* B710 (2012), pp. 363–382. DOI: 10.1016/j.physletb.2012.02.045. arXiv:1108.6027 [hep-ex].
- [123] G. Aad et al. “Measurement of the charge asymmetry in top quark pair production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Eur.Phys.J.* C72 (2012), p. 2039. DOI: 10.1140/epjc/s10052-012-2039-5. arXiv:1203.4211 [hep-ex].
- [124] G. Aad et al. “Measurement of the cross-section for  $b^-$  jets produced in association with a  $Z$  boson at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B706 (2012), pp. 295–313. DOI: 10.1016/j.physletb.2011.11.059. arXiv:1109.1403 [hep-ex].
- [125] G. Aad et al. “Measurement of the cross section for the production of a  $W$  boson in association with  $b^-$  jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B707 (2012), pp. 418–437. DOI: 10.1016/j.physletb.2011.12.046. arXiv:1109.1470 [hep-ex].

- [126] G. Aad et al. “Measurement of the cross section for top-quark pair production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector using final states with two high-pt leptons”. In: *JHEP* 1205 (2012), p. 059. DOI: 10.1007/JHEP05(2012)059. arXiv:1202.4892 [hep-ex].
- [127] G. Aad et al. “Measurement of the inclusive  $W^\pm$  and  $Z/\gamma$  cross sections in the electron and muon decay channels in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 072004. DOI: 10.1103/PhysRevD.85.072004. arXiv:1109.5141 [hep-ex].
- [128] G. Aad et al. “Measurement of the isolated di-photon cross-section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 012003. DOI: 10.1103/PhysRevD.85.012003. arXiv:1107.0581 [hep-ex].
- [129] G. Aad et al. “Measurement of the polarisation of  $W$  bosons produced with large transverse momentum in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS experiment”. In: *Eur.Phys.J.* C72 (2012), p. 2001. DOI: 10.1140/epjc/s10052-012-2001-6. arXiv:1203.2165 [hep-ex].
- [130] G. Aad et al. “Measurement of the production cross section for  $Z/\gamma^*$  in association with jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 032009. DOI: 10.1103/PhysRevD.85.032009. arXiv:1111.2690 [hep-ex].
- [131] G. Aad et al. “Measurement of the pseudorapidity and transverse momentum dependence of the elliptic flow of charged particles in lead-lead collisions at  $\sqrt{s_{NN}} = 2.76$  TeV with the ATLAS detector”. In: *Phys.Lett.* B707 (2012), pp. 330–348. DOI: 10.1016/j.physletb.2011.12.056. arXiv:1108.6018 [hep-ex].
- [132] G. Aad et al. “Measurement of the  $t$ -channel single top-quark production cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B717 (2012), pp. 330–350. DOI: 10.1016/j.physletb.2012.09.031. arXiv:1205.3130 [hep-ex].
- [133] G. Aad et al. “Measurement of the top quark mass with the template method in the  $t\bar{t} \rightarrow$  lepton + jets channel using ATLAS data”. In: *Eur.Phys.J.* C72 (2012), p. 2046. DOI: 10.1140/epjc/s10052-012-2046-6. arXiv:1203.5755 [hep-ex].
- [134] G. Aad et al. “Measurement of the top quark pair cross section with ATLAS in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using final states with an electron or a muon and a hadronically decaying  $\tau$  lepton”. In: *Phys.Lett.* B717 (2012), pp. 89–108. DOI: 10.1016/j.physletb.2012.09.032. arXiv:1205.2067 [hep-ex].
- [135] G. Aad et al. “Measurement of the top quark pair production cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV in dilepton final states with ATLAS”. In: *Phys.Lett.* B707 (2012), pp. 459–477. DOI: 10.1016/j.physletb.2011.12.055. arXiv:1108.3699 [hep-ex].
- [136] G. Aad et al. “Measurement of the top quark pair production cross-section with ATLAS in the single lepton channel”. In: *Phys.Lett.* B711 (2012), pp. 244–263. DOI: 10.1016/j.physletb.2012.03.083. arXiv:1201.1889 [hep-ex].

- [137] G. Aad et al. “Measurement of the Transverse Momentum Distribution of  $W$  Bosons in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector”. In: *Phys.Rev.D* 85 (2012), p. 012005. DOI: 10.1103/PhysRevD.85.012005. arXiv:1108.6308 [hep-ex].
- [138] G. Aad et al. “Measurement of the  $W$  boson polarization in top quark decays with the ATLAS detector”. In: *JHEP* 1206 (2012), p. 088. DOI: 10.1007/JHEP06(2012)088. arXiv:1205.2484 [hep-ex].
- [139] G. Aad et al. “Measurement of the  $W$  to  $\tau\nu$  Cross Section in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS experiment”. In: *Phys.Lett. B* 706 (2012), pp. 276–294. DOI: 10.1016/j.physletb.2011.11.057. arXiv:1108.4101 [hep-ex].
- [140] G. Aad et al. “Measurement of the  $WW$  cross section in  $\sqrt{s} = 7$  TeV  $pp$  collisions with the ATLAS detector and limits on anomalous gauge couplings”. In: *Phys.Lett. B* 712 (2012), pp. 289–308. DOI: 10.1016/j.physletb.2012.05.003. arXiv:1203.6232 [hep-ex].
- [141] G. Aad et al. “Measurement of the  $WZ$  production cross section and limits on anomalous triple gauge couplings in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett. B* 709 (2012), pp. 341–357. DOI: 10.1016/j.physletb.2012.02.053. arXiv:1111.5570 [hep-ex].
- [142] G. Aad et al. “Measurement of the  $ZZ$  production cross section and limits on anomalous neutral triple gauge couplings in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 041804. DOI: 10.1103/PhysRevLett.108.041804. arXiv:1110.5016 [hep-ex].
- [143] G. Aad et al. “Measurement of  $W\gamma$  and  $Z\gamma$  production cross sections in  $pp$  collisions at  $\sqrt{s} = 7$  TeV and limits on anomalous triple gauge couplings with the ATLAS detector”. In: *Phys.Lett. B* 717 (2012), pp. 49–69. DOI: 10.1016/j.physletb.2012.09.017. arXiv:1205.2531 [hep-ex].
- [144] G. Aad et al. “Measurement of  $WZ$  production in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J. C* 72 (2012), p. 2173. DOI: 10.1140/epjc/s10052-012-2173-0. arXiv:1208.1390 [hep-ex].
- [145] G. Aad et al. “Measurements of the electron and muon inclusive cross-sections in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett. B* 707 (2012), pp. 438–458. DOI: 10.1016/j.physletb.2011.12.054. arXiv:1109.0525 [hep-ex].
- [146] G. Aad et al. “Measurements of the pseudorapidity dependence of the total transverse energy in proton-proton collisions at  $\sqrt{s} = 7$  TeV with ATLAS”. In: *JHEP* 1211 (2012), p. 033. DOI: 10.1007/JHEP11(2012)033. arXiv:1208.6256 [hep-ex].
- [147] G. Aad et al. “Observation of a new  $\chi_b$  state in radiative transitions to  $\Upsilon(1S)$  and  $\Upsilon(2S)$  at ATLAS”. In: *Phys.Rev.Lett.* 108 (2012), p. 152001. DOI: 10.1103/PhysRevLett.108.152001. arXiv:1112.5154 [hep-ex].
- [148] G. Aad et al. “Observation of spin correlation in  $t\bar{t}$  events from  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 212001. DOI: 10.1103/PhysRevLett.108.212001. arXiv:1203.4081 [hep-ex].

- [149] G. Aad et al. “Performance of Missing Transverse Momentum Reconstruction in Proton-Proton Collisions at 7 TeV with ATLAS”. In: *Eur.Phys.J. C72* (2012), p. 1844. DOI: 10.1140/epjc/s10052-011-1844-6. arXiv:1108.5602 [hep-ex].
- [150] G. Aad et al. “Performance of the ATLAS Trigger System in 2010”. In: *Eur.Phys.J. C72* (2012), p. 1849. DOI: 10.1140/epjc/s10052-011-1849-1. arXiv:1110.1530 [hep-ex].
- [151] G. Aad et al. “Rapidity gap cross sections measured with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J. C72* (2012), p. 1926. DOI: 10.1140/epjc/s10052-012-1926-0. arXiv:1201.2808 [hep-ex].
- [152] G. Aad et al. “Search for a fermiophobic Higgs boson in the diphoton decay channel with the ATLAS detector”. In: *Eur.Phys.J. C72* (2012), p. 2157. DOI: 10.1140/epjc/s10052-012-2157-0. arXiv:1205.0701 [hep-ex].
- [153] G. Aad et al. “Search for a heavy Standard Model Higgs boson in the channel  $H \rightarrow ZZ \rightarrow llq\bar{q}$  using the ATLAS detector”. In: *Phys.Lett. B707* (2012), pp. 27–45. DOI: 10.1016/j.physletb.2011.11.056. arXiv:1108.5064 [hep-ex].
- [154] G. Aad et al. “Search for a heavy top-quark partner in final states with two leptons with the ATLAS detector at the LHC”. In: *JHEP* 1211 (2012), p. 094. DOI: 10.1007/JHEP11(2012)094. arXiv:1209.4186 [hep-ex].
- [155] G. Aad et al. “Search for a light Higgs boson decaying to long-lived weakly-interacting particles in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 251801. DOI: 10.1103/PhysRevLett.108.251801. arXiv:1203.1303 [hep-ex].
- [156] G. Aad et al. “Search for a Standard Model Higgs boson in the  $H \rightarrow ZZ \rightarrow l^+l^-\nu\bar{\nu}$  decay channel using  $4.7 \text{ fb}^{-1}$  of  $\sqrt{s} = 7$  TeV data with the ATLAS detector”. In: *Phys.Lett. B717* (2012), pp. 29–48. DOI: 10.1016/j.physletb.2012.09.016. arXiv:1205.6744 [hep-ex].
- [157] G. Aad et al. “Search for a standard model Higgs boson in the mass range 200 - 600-GeV in the  $H \rightarrow ZZ \rightarrow \ell^+\ell^-q\bar{q}$  decay channel with the ATLAS detector”. In: *Phys.Lett. B717* (2012), pp. 70–88. DOI: 10.1016/j.physletb.2012.09.020. arXiv:1206.2443 [hep-ex].
- [158] G. Aad et al. “Search for a supersymmetric partner to the top quark in final states with jets and missing transverse momentum at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 109 (2012), p. 211802. DOI: 10.1103/PhysRevLett.109.211802. arXiv:1208.1447 [hep-ex].
- [159] G. Aad et al. “Search for anomalous production of prompt like-sign lepton pairs at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1212 (2012), p. 007. DOI: 10.1007/JHEP12(2012)007. arXiv:1210.4538 [hep-ex].
- [160] G. Aad et al. “Search for anomalous production of prompt like-sign muon pairs and constraints on physics beyond the Standard Model with the ATLAS detector”. In: *Phys.Rev. D85* (2012), p. 032004. DOI: 10.1103/PhysRevD.85.032004. arXiv:1201.1091 [hep-ex].

- [161] G. Aad et al. “Search for anomaly-mediated supersymmetry breaking with the ATLAS detector based on a disappearing-track signature in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J. C72* (2012), p. 1993. DOI: 10.1140/epjc/s10052-012-1993-2. arXiv:1202.4847 [hep-ex].
- [162] G. Aad et al. “Search for charged Higgs bosons decaying via  $H^+ \rightarrow \tau\nu$  in top quark pair events using  $pp$  collision data at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1206 (2012), p. 039. DOI: 10.1007/JHEP06(2012)039. arXiv:1204.2760 [hep-ex].
- [163] G. Aad et al. “Search for contact interactions in dilepton events from  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett. B712* (2012), pp. 40–58. DOI: 10.1016/j.physletb.2012.04.026. arXiv:1112.4462 [hep-ex].
- [164] G. Aad et al. “Search for decays of stopped, long-lived particles from 7 TeV  $pp$  collisions with the ATLAS detector”. In: *Eur.Phys.J. C72* (2012), p. 1965. DOI: 10.1140/epjc/s10052-012-1965-6. arXiv:1201.5595 [hep-ex].
- [165] G. Aad et al. “Search for Diphoton Events with Large Missing Transverse Momentum in  $1 \text{ fb}^{-1}$  of 7 TeV Proton-Proton Collision Data with the ATLAS Detector”. In: *Phys.Lett. B710* (2012), pp. 519–537. DOI: 10.1016/j.physletb.2012.02.054. arXiv:1111.4116 [hep-ex].
- [166] G. Aad et al. “Search for diphoton events with large missing transverse momentum in 7 TeV proton-proton collision data with the ATLAS detector”. In: *Phys.Lett. B718* (2012), pp. 411–430. DOI: 10.1016/j.physletb.2012.10.069. arXiv:1209.0753 [hep-ex].
- [167] G. Aad et al. “Search for direct top squark pair production in final states with one isolated lepton, jets, and missing transverse momentum in  $\sqrt{s} = 7$  TeV  $pp$  collisions using  $4.7 \text{ fb}^{-1}$  of ATLAS data”. In: *Phys.Rev.Lett.* 109 (2012), p. 211803. DOI: 10.1103/PhysRevLett.109.211803. arXiv:1208.2590 [hep-ex].
- [168] G. Aad et al. “Search for displaced vertices arising from decays of new heavy particles in 7 TeV  $pp$  collisions at ATLAS”. In: *Phys.Lett. B707* (2012), pp. 478–496. DOI: 10.1016/j.physletb.2011.12.057. arXiv:1109.2242 [hep-ex].
- [169] G. Aad et al. “Search for doubly-charged Higgs bosons in like-sign dilepton final states at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J. C72* (2012), p. 2244. DOI: 10.1140/epjc/s10052-012-2244-2. arXiv:1210.5070 [hep-ex].
- [170] G. Aad et al. “Search for down-type fourth generation quarks with the ATLAS detector in events with one lepton and hadronically decaying  $W$  bosons”. In: *Phys.Rev.Lett.* 109 (2012), p. 032001. DOI: 10.1103/PhysRevLett.109.032001. arXiv:1202.6540 [hep-ex].
- [171] G. Aad et al. “Search for events with large missing transverse momentum, jets, and at least two tau leptons in 7 TeV proton-proton collision data with the ATLAS detector”. In: *Phys.Lett. B714* (2012), pp. 180–196. DOI: 10.1016/j.physletb.2012.06.055. arXiv:1203.6580 [hep-ex].
- [172] G. Aad et al. “Search for excited leptons in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev. D85* (2012), p. 072003. DOI: 10.1103/PhysRevD.85.072003. arXiv:1201.3293 [hep-ex].



- [173] G. Aad et al. “Search for Extra Dimensions using diphoton events in 7 TeV proton-proton collisions with the ATLAS detector”. In: *Phys.Lett.* B710 (2012), pp. 538–556. DOI: 10.1016/j.physletb.2012.03.022. arXiv:1112.2194 [hep-ex].
- [174] G. Aad et al. “Search for FCNC single top-quark production at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B712 (2012), pp. 351–369. DOI: 10.1016/j.physletb.2012.05.022. arXiv:1203.0529 [hep-ex].
- [175] G. Aad et al. “Search for first generation scalar leptoquarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B709 (2012), pp. 158–176. DOI: 10.1016/j.physletb.2012.03.023, 10.1016/j.physletb.2012.02.004. arXiv:1112.4828 [hep-ex].
- [176] G. Aad et al. “Search for gluinos in events with two same-sign leptons, jets and missing transverse momentum with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Phys.Rev.Lett.* 108 (2012), p. 241802. DOI: 10.1103/PhysRevLett.108.241802. arXiv:1203.5763 [hep-ex].
- [177] G. Aad et al. “Search for heavy neutrinos and right-handed  $W$  bosons in events with two leptons and jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J.* C72 (2012), p. 2056. DOI: 10.1140/epjc/s10052-012-2056-4. arXiv:1203.5420 [hep-ex].
- [178] G. Aad et al. “Search for heavy vector-like quarks coupling to light quarks in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B712 (2012), pp. 22–39. DOI: 10.1016/j.physletb.2012.03.082. arXiv:1112.5755 [hep-ex].
- [179] G. Aad et al. “Search for high-mass resonances decaying to dilepton final states in  $pp$  collisions at  $\sqrt{s} = 7$ -TeV with the ATLAS detector”. In: *JHEP* 1211 (2012), p. 138. DOI: 10.1007/JHEP11(2012)138. arXiv:1209.2535 [hep-ex].
- [180] G. Aad et al. “Search for lepton flavour violation in the emu continuum with the ATLAS detector in  $\sqrt{s} = 7$  TeV  $pp$  collisions at the LHC”. In: *Eur.Phys.J.* C72 (2012), p. 2040. DOI: 10.1140/epjc/s10052-012-2040-z. arXiv:1205.0725 [hep-ex].
- [181] G. Aad et al. “Search for light scalar top quark pair production in final states with two leptons with the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Eur.Phys.J.* C72 (2012), p. 2237. DOI: 10.1140/epjc/s10052-012-2237-1. arXiv:1208.4305 [hep-ex].
- [182] G. Aad et al. “Search for magnetic monopoles in  $\sqrt{s} = 7$  TeV  $pp$  collisions with the ATLAS detector”. In: *Phys.Rev.Lett.* 109 (2012), p. 261803. DOI: 10.1103/PhysRevLett.109.261803. arXiv:1207.6411 [hep-ex].
- [183] G. Aad et al. “Search for new particles decaying to  $ZZ$  using final states with leptons and jets with the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Phys.Lett.* B712 (2012), pp. 331–350. DOI: 10.1016/j.physletb.2012.05.020. arXiv:1203.0718 [hep-ex].
- [184] G. Aad et al. “Search for New Phenomena in  $t\bar{t}$  Events With Large Missing Transverse Momentum in Proton-Proton Collisions at  $\sqrt{s} = 7$  TeV with the ATLAS Detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 041805. DOI: 10.1103/PhysRevLett.108.041805. arXiv:1109.4725 [hep-ex].

- [185] G. Aad et al. “Search for New Physics in the Dijet Mass Distribution using  $1 \text{ fb}^{-1}$  of  $pp$  Collision Data at  $\sqrt{s} = 7 \text{ TeV}$  collected by the ATLAS Detector”. In: *Phys.Lett.* B708 (2012), pp. 37–54. DOI: 10.1016/j.physletb.2012.01.035. arXiv:1108.6311 [hep-ex].
- [186] G. Aad et al. “Search for pair-produced heavy quarks decaying to  $Wq$  in the two-lepton channel at  $\sqrt{s} = 7 \text{ TeV}$  with the ATLAS detector”. In: *Phys.Rev.* D86 (2012), p. 012007. DOI: 10.1103/PhysRevD.86.012007. arXiv:1202.3389 [hep-ex].
- [187] G. Aad et al. “Search for pair production of a heavy up-type quark decaying to a  $W$  boson and a  $b$  quark in the lepton+jets channel with the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 261802. DOI: 10.1103/PhysRevLett.108.261802. arXiv:1202.3076 [hep-ex].
- [188] G. Aad et al. “Search for pair production of a new quark that decays to a  $Z$  boson and a bottom quark with the ATLAS detector”. In: *Phys.Rev.Lett.* 109 (2012), p. 071801. DOI: 10.1103/PhysRevLett.109.071801. arXiv:1204.1265 [hep-ex].
- [189] G. Aad et al. “Search for pair production of massive particles decaying into three quarks with the ATLAS detector in  $\sqrt{s} = 7 \text{ TeV}$   $pp$  collisions at the LHC”. In: *JHEP* 1212 (2012), p. 086. DOI: 10.1007/JHEP12(2012)086. arXiv:1210.4813 [hep-ex].
- [190] G. Aad et al. “Search for production of resonant states in the photon-jet mass distribution using  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$  collected by the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 211802. DOI: 10.1103/PhysRevLett.108.211802. arXiv:1112.3580 [hep-ex].
- [191] G. Aad et al. “Search for R-parity-violating supersymmetry in events with four or more leptons in  $\sqrt{s} = 7 \text{ TeV}$   $pp$  collisions with the ATLAS detector”. In: *JHEP* 1212 (2012), p. 124. DOI: 10.1007/JHEP12(2012)124. arXiv:1210.4457 [hep-ex].
- [192] G. Aad et al. “Search for resonant top plus jet production in  $t\bar{t} + \text{jets}$  events with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$ ”. In: *Phys.Rev.* D86 (2012), p. 091103. DOI: 10.1103/PhysRevD.86.091103. arXiv:1209.6593 [hep-ex].
- [193] G. Aad et al. “Search for resonant  $WZ$  production in the  $WZ \rightarrow \ell\nu\ell'\ell'$  channel in  $\sqrt{s} = 7 \text{ TeV}$   $pp$  collisions with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 112012. DOI: 10.1103/PhysRevD.85.112012. arXiv:1204.1648 [hep-ex].
- [194] G. Aad et al. “Search for same-sign top-quark production and fourth-generation down-type quarks in  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$  with the ATLAS detector”. In: *JHEP* 1204 (2012), p. 069. DOI: 10.1007/JHEP04(2012)069. arXiv:1202.5520 [hep-ex].
- [195] G. Aad et al. “Search for scalar bottom quark pair production with the ATLAS detector in  $pp$  Collisions at  $\sqrt{s} = 7 \text{ TeV}$ ”. In: *Phys.Rev.Lett.* 108 (2012), p. 181802. DOI: 10.1103/PhysRevLett.108.181802. arXiv:1112.3832 [hep-ex].
- [196] G. Aad et al. “Search for scalar top quark pair production in natural gauge mediated supersymmetry models with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7 \text{ TeV}$ ”. In: *Phys.Lett.* B715 (2012), pp. 44–60. DOI: 10.1016/j.physletb.2012.07.010. arXiv:1204.6736 [hep-ex].

- [197] G. Aad et al. “Search for second generation scalar leptoquarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J.* C72 (2012), p. 2151. DOI: 10.1140/epjc/s10052-012-2151-6. arXiv:1203.3172 [hep-ex].
- [198] G. Aad et al. “Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Phys.Lett.* B710 (2012), pp. 67–85. DOI: 10.1016/j.physletb.2012.02.051. arXiv:1109.6572 [hep-ex].
- [199] G. Aad et al. “Search for strong gravity signatures in same-sign dimuon final states using the ATLAS detector at the LHC”. In: *Phys.Lett.* B709 (2012), pp. 322–340. DOI: 10.1016/j.physletb.2012.02.049. arXiv:1111.0080 [hep-ex].
- [200] G. Aad et al. “Search for Supersymmetry in Events with Large Missing Transverse Momentum, Jets, and at Least One Tau Lepton in 7 TeV Proton-Proton Collision Data with the ATLAS Detector”. In: *Eur.Phys.J.* C72 (2012), p. 2215. DOI: 10.1140/epjc/s10052-012-2215-7. arXiv:1210.1314 [hep-ex].
- [201] G. Aad et al. “Search for supersymmetry in events with three leptons and missing transverse momentum in  $\sqrt{s} = 7$  TeV  $pp$  collisions with the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 261804. DOI: 10.1103/PhysRevLett.108.261804. arXiv:1204.5638 [hep-ex].
- [202] G. Aad et al. “Search for supersymmetry in final states with jets, missing transverse momentum and one isolated lepton in  $\sqrt{s} = 7$  TeV  $pp$  collisions using  $1\text{ fb}^{-1}$  of ATLAS data”. In: *Phys.Rev.* D85.1 (2012), p. 012006. DOI: 10.1103/PhysRevD.85.012006. arXiv:1109.6606 [hep-ex].
- [203] G. Aad et al. “Search for supersymmetry in  $pp$  collisions at  $\sqrt{s} = 7$  TeV in final states with missing transverse momentum and  $b^-$  jets with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 112006. DOI: 10.1103/PhysRevD.85.112006. arXiv:1203.6193 [hep-ex].
- [204] G. Aad et al. “Search for supersymmetry with jets, missing transverse momentum and at least one hadronically decaying  $\tau$  lepton in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B714 (2012), pp. 197–214. DOI: 10.1016/j.physletb.2012.06.061. arXiv:1204.3852 [hep-ex].
- [205] G. Aad et al. “Search for  $tb$  resonances in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 109 (2012), p. 081801. DOI: 10.1103/PhysRevLett.109.081801. arXiv:1205.1016 [hep-ex].
- [206] G. Aad et al. “Search for TeV-scale gravity signatures in final states with leptons and jets with the ATLAS detector at  $\sqrt{s} = 7$  TeV”. In: *Phys.Lett.* B716 (2012), pp. 122–141. DOI: 10.1016/j.physletb.2012.08.009. arXiv:1204.4646 [hep-ex].
- [207] G. Aad et al. “Search for the decay  $B_s^0 \rightarrow \mu\mu$  with the ATLAS detector”. In: *Phys.Lett.* B713 (2012), pp. 387–407. DOI: 10.1016/j.physletb.2012.06.013. arXiv:1204.0735 [hep-ex].
- [208] G. Aad et al. “Search for the Higgs boson in the  $H \rightarrow WW \rightarrow l\nu jj$  decay channel at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B718 (2012), pp. 391–410. DOI: 10.1016/j.physletb.2012.10.066. arXiv:1206.6074 [hep-ex].

- [209] G. Aad et al. “Search for the Higgs boson in the  $H \rightarrow WW(*) \rightarrow \ell_\nu \ell_\nu$  decay channel in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 108 (2012), p. 111802. DOI: 10.1103/PhysRevLett.108.111802. arXiv:1112.2577 [hep-ex].
- [210] G. Aad et al. “Search for the Standard Model Higgs boson in the decay channel  $H \rightarrow ZZ(*) \rightarrow 4\ell$  with 4.8 fb<sup>-1</sup> of  $pp$  collision data at  $\sqrt{s} = 7$  TeV with ATLAS”. In: *Phys.Lett.* B710 (2012), pp. 383–402. DOI: 10.1016/j.physletb.2012.03.005. arXiv:1202.1415 [hep-ex].
- [211] G. Aad et al. “Search for the Standard Model Higgs boson in the  $H$  to  $\tau^+\tau^-$  decay mode in  $\sqrt{s} = 7$  TeV  $pp$  collisions with ATLAS”. In: *JHEP* 1209 (2012), p. 070. DOI: 10.1007/JHEP09(2012)070. arXiv:1206.5971 [hep-ex].
- [212] G. Aad et al. “Search for the Standard Model Higgs boson in the  $H \rightarrow WW(*) \rightarrow \ell\nu\ell\nu$  decay mode with 4.7 fb<sup>-1</sup> of ATLAS data at  $\sqrt{s} = 7$  TeV”. In: *Phys.Lett.* B716 (2012), pp. 62–81. DOI: 10.1016/j.physletb.2012.08.010. arXiv:1206.0756 [hep-ex].
- [213] G. Aad et al. “Search for the Standard Model Higgs boson produced in association with a vector boson and decaying to a  $b$ -quark pair with the ATLAS detector”. In: *Phys.Lett.* B718 (2012), pp. 369–390. DOI: 10.1016/j.physletb.2012.10.061. arXiv:1207.0210 [hep-ex].
- [214] G. Aad et al. “Search for top and bottom squarks from gluino pair production in final states with missing transverse energy and at least three b-jets with the ATLAS detector”. In: *Eur.Phys.J.* C72 (2012), p. 2174. DOI: 10.1140/epjc/s10052-012-2174-z. arXiv:1207.4686 [hep-ex].
- [215] G. Aad et al. “Searches for supersymmetry with the ATLAS detector using final states with two leptons and missing transverse momentum in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Phys.Lett.* B709 (2012), pp. 137–157. DOI: 10.1016/j.physletb.2012.01.076. arXiv:1110.6189 [hep-ex].
- [216] G. Aad et al. “Study of jets produced in association with a  $W$  boson in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D85 (2012), p. 092002. DOI: 10.1103/PhysRevD.85.092002. arXiv:1201.1276 [hep-ex].
- [217] G. Aad et al. “Time-dependent angular analysis of the decay  $B_s^0 \rightarrow J/\psi\phi$  and extraction of  $\Delta\Gamma_s$  and the CP-violating weak phase  $\phi_s$  by ATLAS”. In: *JHEP* 1212 (2012), p. 072. DOI: 10.1007/JHEP12(2012)072. arXiv:1208.0572 [hep-ex].
- [218] G. Aad et al. “Underlying event characteristics and their dependence on jet size of charged-particle jet events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D86 (2012), p. 072004. DOI: 10.1103/PhysRevD.86.072004. arXiv:1208.0563 [hep-ex].
- [219] G. Aad et al. “A search for high-mass resonances decaying to  $\tau^+\tau^-$  in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B719 (2013), pp. 242–260. DOI: 10.1016/j.physletb.2013.01.040. arXiv:1210.6604 [hep-ex].
- [220] G. Aad et al. “A search for prompt lepton-jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B719 (2013), pp. 299–317. DOI: 10.1016/j.physletb.2013.01.034. arXiv:1212.5409.

- [221] G. Aad et al. “ATLAS search for new phenomena in dijet mass and angular distributions using  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *JHEP* 1301 (2013), p. 029. DOI: 10.1007/JHEP01(2013)029. arXiv:1210.1718 [hep-ex].
- [222] G. Aad et al. “Characterisation and mitigation of beam-induced backgrounds observed in the ATLAS detector during the 2011 proton-proton run”. In: *JINST* 8 (2013), P07004. DOI: 10.1088/1748-0221/8/07/P07004. arXiv:1303.0223 [hep-ex].
- [223] G. Aad et al. “Dynamics of isolated-photon plus jet production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Nucl.Phys.* B875 (2013), pp. 483–535. DOI: 10.1016/j.nuclphysb.2013.07.025. arXiv:1307.6795 [hep-ex].
- [224] G. Aad et al. “Evidence for the spin-0 nature of the Higgs boson using ATLAS data”. In: *Phys.Lett.* B726 (2013), pp. 120–144. DOI: 10.1016/j.physletb.2013.08.026. arXiv:1307.1432 [hep-ex].
- [225] G. Aad et al. “Improved luminosity determination in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector at the LHC”. In: *Eur.Phys.J.* C73 (2013), p. 2518. DOI: 10.1140/epjc/s10052-013-2518-3. arXiv:1302.4393 [hep-ex].
- [226] G. Aad et al. “Jet energy measurement with the ATLAS detector in proton-proton collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J.* C73 (2013), p. 2304. DOI: 10.1140/epjc/s10052-013-2304-2. arXiv:1112.6426 [hep-ex].
- [227] G. Aad et al. “Jet energy resolution in proton-proton collisions at  $\sqrt{s} = 7$  TeV recorded in 2010 with the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2306. DOI: 10.1140/epjc/s10052-013-2306-0. arXiv:1210.6210 [hep-ex].
- [228] G. Aad et al. “Measurement of angular correlations in Drell-Yan lepton pairs to probe  $Z/\gamma^*$  boson transverse momentum at  $\sqrt{s}=7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B720 (2013), pp. 32–51. DOI: 10.1016/j.physletb.2013.01.054. arXiv:1211.6899 [hep-ex].
- [229] G. Aad et al. “Measurement of charged-particle event shape variables in  $\sqrt{s} = 7$  TeV proton-proton interactions with the ATLAS detector”. In: *Phys.Rev.* D88.3 (2013), p. 032004. DOI: 10.1103/PhysRevD.88.032004. arXiv:1207.6915 [hep-ex].
- [230] G. Aad et al. “Measurement of hard double-parton interactions in  $W(\rightarrow l\nu)+ 2$  jet events at  $\sqrt{s}=7$  TeV with the ATLAS detector”. In: *New J.Phys.* 15 (2013), p. 033038. DOI: 10.1088/1367-2630/15/3/033038. arXiv:1301.6872 [hep-ex].
- [231] G. Aad et al. “Measurement of isolated-photon pair production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1301 (2013), p. 086. DOI: 10.1007/JHEP01(2013)086. arXiv:1211.1913 [hep-ex].
- [232] G. Aad et al. “Measurement of jet shapes in top-quark pair events at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2676. DOI: 10.1140/epjc/s10052-013-2676-3. arXiv:1307.5749 [hep-ex].
- [233] G. Aad et al. “Measurement of  $k_T$  splitting scales in  $W \rightarrow l\nu$  events at  $\sqrt{s}=7$  TeV with the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2432. DOI: 10.1140/epjc/s10052-013-2432-8. arXiv:1302.1415 [hep-ex].

- [234] G. Aad et al. “Measurement of the Azimuthal Angle Dependence of Inclusive Jet Yields in Pb+Pb Collisions at  $\sqrt{s_{NN}} = 2.76$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 111.15 (2013), p. 152301. DOI: 10.1103/PhysRevLett.111.152301. arXiv:1306.6469 [hep-ex].
- [235] G. Aad et al. “Measurement of the cross-section for W boson production in association with b-jets in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1306 (2013), p. 084. DOI: 10.1007/JHEP06(2013)084. arXiv:1302.2929 [hep-ex].
- [236] G. Aad et al. “Measurement of the differential cross-section of  $B^+$  meson production in pp collisions at  $\sqrt{s} = 7$  TeV at ATLAS”. In: *JHEP* 1310 (2013), p. 042. DOI: 10.1007/JHEP10(2013)042. arXiv:1307.0126 [hep-ex].
- [237] G. Aad et al. “Measurement of the distributions of event-by-event flow harmonics in lead-lead collisions at  $\sqrt{s} = 2.76$  TeV with the ATLAS detector at the LHC”. In: *JHEP* 1311 (2013), p. 183. DOI: 10.1007/JHEP11(2013)183. arXiv:1305.2942 [hep-ex].
- [238] G. Aad et al. “Measurement of the flavour composition of dijet events in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2301. DOI: 10.1140/epjc/s10052-013-2301-5. arXiv:1210.0441 [hep-ex].
- [239] G. Aad et al. “Measurement of the high-mass Drell-Yan differential cross-section in pp collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B725 (2013), pp. 223–242. DOI: 10.1016/j.physletb.2013.07.049. arXiv:1305.4192 [hep-ex].
- [240] G. Aad et al. “Measurement of the inclusive jet cross section in pp collisions at  $\sqrt{s}=2.76$  TeV and comparison to the inclusive jet cross section at  $\sqrt{s}=7$  TeV using the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2509. DOI: 10.1140/epjc/s10052-013-2509-4. arXiv:1304.4739 [hep-ex].
- [241] G. Aad et al. “Measurement of the jet radius and transverse momentum dependence of inclusive jet suppression in lead-lead collisions at  $\sqrt{s_{NN}}= 2.76$  TeV with the ATLAS detector”. In: *Phys.Lett.* B719 (2013), pp. 220–241. DOI: 10.1016/j.physletb.2013.01.024. arXiv:1208.1967 [hep-ex].
- [242] G. Aad et al. “Measurement of the  $\Lambda_b$  lifetime and mass in the ATLAS experiment”. In: *Phys.Rev.* D87.3 (2013), p. 032002. DOI: 10.1103/PhysRevD.87.032002. arXiv:1207.2284 [hep-ex].
- [243] G. Aad et al. “Measurement of the production cross section of jets in association with a Z boson in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1307 (2013), p. 032. DOI: 10.1007/JHEP07(2013)032. arXiv:1304.7098 [hep-ex].
- [244] G. Aad et al. “Measurement of the top quark charge in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1311 (2013), p. 031. DOI: 10.1007/JHEP11(2013)031. arXiv:1307.4568 [hep-ex].
- [245] G. Aad et al. “Measurement of the ttbar production cross section in the tau+jets channel using the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2328. DOI: 10.1140/epjc/s10052-013-2328-7. arXiv:1211.7205 [hep-ex].

- [246] G. Aad et al. “Measurement of Top Quark Polarization in Top-Antitop Events from Proton-Proton Collisions at  $\sqrt{s} = 7$  TeV Using the ATLAS Detector”. In: *Phys.Rev.Lett.* 111.23 (2013), p. 232002. DOI: 10.1103/PhysRevLett.111.232002. arXiv:1307.6511 [hep-ex].
- [247] G. Aad et al. “Measurement of Upsilon production in 7 TeV pp collisions at ATLAS”. In: *Phys.Rev.* D87.5 (2013), p. 052004. DOI: 10.1103/PhysRevD.87.052004. arXiv:1211.7255 [hep-ex].
- [248] G. Aad et al. “Measurement of  $W^+W^-$  production in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector and limits on anomalous WWZ and  $WW\gamma$  couplings”. In: *Phys.Rev.* D87.11 (2013), p. 112001. DOI: 10.1103/PhysRevD.87.112001, 10.1103/PhysRevD.88.079906. arXiv:1210.2979 [hep-ex].
- [249] G. Aad et al. “Measurement of Z boson Production in Pb+Pb Collisions at  $\sqrt{s_{NN}} = 2.76$  TeV with the ATLAS Detector”. In: *Phys.Rev.Lett.* 110 (2013), p. 022301. DOI: 10.1103/PhysRevLett.110.022301. arXiv:1210.6486 [hep-ex].
- [250] G. Aad et al. “Measurement of ZZ production in pp collisions at  $\sqrt{s} = 7$  TeV and limits on anomalous ZZZ and  $ZZ\gamma$  couplings with the ATLAS detector”. In: *JHEP* 1303 (2013), p. 128. DOI: 10.1007/JHEP03(2013)128. arXiv:1211.6096 [hep-ex].
- [251] G. Aad et al. “Measurement with the ATLAS detector of multi-particle azimuthal correlations in p+Pb collisions at  $\sqrt{(s_{NN})}=5.02$  TeV”. In: *Phys.Lett.* B725 (2013), pp. 60–78. DOI: 10.1016/j.physletb.2013.06.057. arXiv:1303.2084 [hep-ex].
- [252] G. Aad et al. “Measurements of top quark pair relative differential cross-sections with ATLAS in pp collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J.* C73 (2013), p. 2261. DOI: 10.1140/epjc/s10052-012-2261-1. arXiv:1207.5644 [hep-ex].
- [253] G. Aad et al. “Measurements of  $W\tilde{\chi}$  and  $Z\tilde{\chi}$  production in pp collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector at the LHC”. In: *Phys.Rev.* D87.11 (2013), p. 112003. DOI: 10.1103/PhysRevD.87.112003. arXiv:1302.1283 [hep-ex].
- [254] G. Aad et al. “Multi-channel search for squarks and gluinos in  $\sqrt{s} = 7$  TeV pp collisions with the ATLAS detector”. In: *Eur.Phys.J.* C73 (2013), p. 2362. DOI: 10.1140/epjc/s10052-013-2362-5. arXiv:1212.6149 [hep-ex].
- [255] G. Aad et al. “Observation of Associated Near-side and Away-side Long-range Correlations in  $\sqrt{s_{NN}}=5.02$  TeV Proton-lead Collisions with the ATLAS Detector”. In: *Phys.Rev.Lett.* 110 (2013), p. 182302. DOI: 10.1103/PhysRevLett.110.182302. arXiv:1212.5198 [hep-ex].
- [256] G. Aad et al. “Performance of jet substructure techniques for large- $R$  jets in proton-proton collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *JHEP* 1309 (2013), p. 076. DOI: 10.1007/JHEP09(2013)076. arXiv:1306.4945 [hep-ex].
- [257] G. Aad et al. “Search for a heavy narrow resonance decaying to  $e\mu$ ,  $e\tau$ , or  $\mu\tau$  with the ATLAS detector in  $\sqrt{s} = 7$  TeV pp collisions at the LHC”. In: *Phys.Lett.* B723 (2013), pp. 15–32. DOI: 10.1016/j.physletb.2013.04.035. arXiv:1212.1272.

- [258] G. Aad et al. “Search for a light charged Higgs boson in the decay channel  $H^+ \rightarrow c\bar{s}$  in  $t\bar{t}$  events using pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Eur.Phys.J. C* 73 (2013), p. 2465. DOI: 10.1140/epjc/s10052-013-2465-z. arXiv:1302.3694 [hep-ex].
- [259] G. Aad et al. “Search for charged Higgs bosons through the violation of lepton universality in  $t\bar{t}$  events using  $pp$  collision data at  $\sqrt{s} = 7$  TeV with the ATLAS experiment”. In: *JHEP* 1303 (2013), p. 076. DOI: 10.1007/JHEP03(2013)076. arXiv:1212.3572 [hep-ex].
- [260] G. Aad et al. “Search for charginos nearly mass degenerate with the lightest neutralino based on a disappearing-track signature in pp collisions at  $\sqrt{s}=8$  TeV with the ATLAS detector”. In: *Phys.Rev.* D88.11 (2013), p. 112006. DOI: 10.1103/PhysRevD.88.112006. arXiv:1310.3675 [hep-ex].
- [261] G. Aad et al. “Search for contact interactions and large extra dimensions in dilepton events from  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D87 (2013), p. 015010. DOI: 10.1103/PhysRevD.87.015010. arXiv:1211.1150 [hep-ex].
- [262] G. Aad et al. “Search for dark matter candidates and large extra dimensions in events with a jet and missing transverse momentum with the ATLAS detector”. In: *JHEP* 1304 (2013), p. 075. DOI: 10.1007/JHEP04(2013)075. arXiv:1210.4491 [hep-ex].
- [263] G. Aad et al. “Search for direct chargino production in anomaly-mediated supersymmetry breaking models based on a disappearing-track signature in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1301 (2013), p. 131. DOI: 10.1007/JHEP01(2013)131. arXiv:1210.2852 [hep-ex].
- [264] G. Aad et al. “Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in  $\sqrt{s} = 7$  TeV  $pp$  collisions with the ATLAS detector”. In: *Phys.Lett.* B718 (2013), pp. 841–859. DOI: 10.1016/j.physletb.2012.11.039. arXiv:1208.3144 [hep-ex].
- [265] G. Aad et al. “Search for direct slepton and gaugino production in final states with two leptons and missing transverse momentum with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Phys.Lett.* B718 (2013), pp. 879–901. DOI: 10.1016/j.physletb.2012.11.058. arXiv:1208.2884 [hep-ex].
- [266] G. Aad et al. “Search for direct third-generation squark pair production in final states with missing transverse momentum and two  $b$ -jets in  $\sqrt{s} = 8$  TeV  $pp$  collisions with the ATLAS detector”. In: *JHEP* 1310 (2013), p. 189. DOI: 10.1007/JHEP10(2013)189. arXiv:1308.2631 [hep-ex].
- [267] G. Aad et al. “Search for displaced muonic lepton jets from light Higgs boson decay in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B721 (2013), pp. 32–50. DOI: 10.1016/j.physletb.2013.02.058. arXiv:1210.0435 [hep-ex].
- [268] G. Aad et al. “Search for excited electrons and muons in  $\sqrt{s}=8$  TeV proton-proton collisions with the ATLAS detector”. In: *New J.Phys.* 15 (2013), p. 093011. DOI: 10.1088/1367-2630/15/9/093011. arXiv:1308.1364 [hep-ex].



- [269] G. Aad et al. “Search for Extra Dimensions in diphoton events using proton-proton collisions recorded at  $\sqrt{s} = 7$  TeV with the ATLAS detector at the LHC”. In: *New J.Phys.* 15 (2013), p. 043007. DOI: 10.1088/1367-2630/15/4/043007. arXiv:1210.8389 [hep-ex].
- [270] G. Aad et al. “Search for light top squark pair production in final states with leptons and  $b^-$  jets with the ATLAS detector in  $\sqrt{s} = 7$  TeV proton-proton collisions”. In: *Phys.Lett.* B720 (2013), pp. 13–31. DOI: 10.1016/j.physletb.2013.01.049. arXiv:1209.2102 [hep-ex].
- [271] G. Aad et al. “Search for long-lived, heavy particles in final states with a muon and multi-track displaced vertex in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B719 (2013), pp. 280–298. DOI: 10.1016/j.physletb.2013.01.042. arXiv:1210.7451 [hep-ex].
- [272] G. Aad et al. “Search for long-lived, multi-charged particles in pp collisions at  $\sqrt{s}=7$  TeV using the ATLAS detector”. In: *Phys.Lett.* B722 (2013), pp. 305–323. DOI: 10.1016/j.physletb.2013.04.036. arXiv:1301.5272 [hep-ex].
- [273] G. Aad et al. “Search for long-lived stopped R-hadrons decaying out-of-time with pp collisions using the ATLAS detector”. In: *Phys.Rev.* D88.11 (2013), p. 112003. DOI: 10.1103/PhysRevD.88.112003. arXiv:1310.6584 [hep-ex].
- [274] G. Aad et al. “Search for microscopic black holes in a like-sign dimuon final state using large track multiplicity with the ATLAS detector”. In: *Phys.Rev.* D88.7 (2013), p. 072001. DOI: 10.1103/PhysRevD.88.072001. arXiv:1308.4075 [hep-ex].
- [275] G. Aad et al. “Search for new phenomena in events with three charged leptons at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Rev.* D87.5 (2013), p. 052002. DOI: 10.1103/PhysRevD.87.052002. arXiv:1211.6312 [hep-ex].
- [276] G. Aad et al. “Search for new phenomena in final states with large jet multiplicities and missing transverse momentum at  $\sqrt{s}=8$  TeV proton-proton collisions using the ATLAS experiment”. In: *JHEP* 1310 (2013), p. 130. DOI: 10.1007/JHEP10(2013)130. arXiv:1308.1841 [hep-ex].
- [277] G. Aad et al. “Search for new phenomena in the  $WW$  to  $\ell\nu\ell'\nu'$  final state in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B718 (2013), pp. 860–878. DOI: 10.1016/j.physletb.2012.11.040. arXiv:1208.2880 [hep-ex].
- [278] G. Aad et al. “Search for nonpointing photons in the diphoton and  $E_T^{miss}$  final state in  $\sqrt{s}=7$  TeV proton-proton collisions using the ATLAS detector”. In: *Phys.Rev.* D88.1 (2013), p. 012001. DOI: 10.1103/PhysRevD.88.012001. arXiv:1304.6310 [hep-ex].
- [279] G. Aad et al. “Search for pair-produced massive coloured scalars in four-jet final states with the ATLAS detector in proton-proton collisions at  $\sqrt{s} = 7$  TeV”. In: *Eur.Phys.J.* C73 (2013), p. 2263. DOI: 10.1140/epjc/s10052-012-2263-z. arXiv:1210.4826 [hep-ex].
- [280] G. Aad et al. “Search for pair production of heavy top-like quarks decaying to a high-pT  $W$  boson and a  $b$  quark in the lepton plus jets final state at  $\sqrt{s}=7$  TeV with the ATLAS detector”. In: *Phys.Lett.* B718 (2013), pp. 1284–1302. DOI: 10.1016/j.physletb.2012.11.071. arXiv:1210.5468 [hep-ex].

- [281] G. Aad et al. “Search for resonances decaying into top-quark pairs using fully hadronic decays in  $pp$  collisions with ATLAS at  $\sqrt{s} = 7$  TeV”. In: *JHEP* 1301 (2013), p. 116. DOI: 10.1007/JHEP01(2013)116. arXiv:1211.2202 [hep-ex].
- [282] G. Aad et al. “Search for resonant diboson production in the  $WW/WZ \rightarrow l\nu jj$  decay channels with the ATLAS detector at  $\sqrt{s} = 7$  TeV”. In: *Phys.Rev.* D87.11 (2013), p. 112006. DOI: 10.1103/PhysRevD.87.112006. arXiv:1305.0125 [hep-ex].
- [283] G. Aad et al. “Search for single  $b^*$ -quark production with the ATLAS detector at  $\sqrt{s} = 7$  TeV”. In: *Phys.Lett.* B721 (2013), pp. 171–189. DOI: 10.1016/j.physletb.2013.03.016. arXiv:1301.1583 [hep-ex].
- [284] G. Aad et al. “Search for squarks and gluinos with the ATLAS detector in final states with jets and missing transverse momentum using  $4.7 \text{ fb}^{-1}$  of  $\sqrt{s} = 7$  TeV proton-proton collision data”. In: *Phys.Rev.* D87 (2013), p. 012008. DOI: 10.1103/PhysRevD.87.012008. arXiv:1208.0949 [hep-ex].
- [285] G. Aad et al. “Search for supersymmetry in events with photons, bottom quarks, and missing transverse momentum in proton-proton collisions at a centre-of-mass energy of 7 TeV with the ATLAS detector”. In: *Phys.Lett.* B719 (2013), pp. 261–279. DOI: 10.1016/j.physletb.2013.01.041. arXiv:1211.1167 [hep-ex].
- [286] G. Aad et al. “Search for  $t\bar{t}$  resonances in the lepton plus jets final state with ATLAS using  $4.7 \text{ fb}^{-1}$  of  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Phys.Rev.* D88.1 (2013), p. 012004. DOI: 10.1103/PhysRevD.88.012004. arXiv:1305.2756 [hep-ex].
- [287] G. Aad et al. “Search for the neutral Higgs bosons of the Minimal Supersymmetric Standard Model in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1302 (2013), p. 095. DOI: 10.1007/JHEP02(2013)095. arXiv:1211.6956 [hep-ex].
- [288] G. Aad et al. “Search for third generation scalar leptoquarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1306 (2013), p. 033. DOI: 10.1007/JHEP06(2013)033. arXiv:1303.0526 [hep-ex].
- [289] G. Aad et al. “Search for  $WH$  production with a light Higgs boson decaying to prompt electron-jets in proton-proton collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector”. In: *New J.Phys.* 15 (2013), p. 043009. DOI: 10.1088/1367-2630/15/4/043009. arXiv:1302.4403 [hep-ex].
- [290] G. Aad et al. “Searches for heavy long-lived sleptons and R-Hadrons with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”. In: *Phys.Lett.* B720 (2013), pp. 277–308. DOI: 10.1016/j.physletb.2013.02.015. arXiv:1211.1597 [hep-ex].
- [291] G. Aad et al. “Single hadron response measurement and calorimeter jet energy scale uncertainty with the ATLAS detector at the LHC”. In: *Eur.Phys.J.* C73 (2013), p. 2305. DOI: 10.1140/epjc/s10052-013-2305-1. arXiv:1203.1302 [hep-ex].
- [292] G. Aad et al. “Triggers for displaced decays of long-lived neutral particles in the ATLAS detector”. In: *JINST* 8 (2013), P07015. DOI: 10.1088/1748-0221/8/07/P07015. arXiv:1305.2284 [hep-ex].

- [293] G. Aad et al. “A study of heavy flavor quarks produced in association with top quark pairs at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Phys.Rev.* D89 (2014), p. 072012. DOI: 10.1103/PhysRevD.89.072012. arXiv:1304.6386 [hep-ex].
- [294] G. Aad et al. “Electron reconstruction and identification efficiency measurements with the ATLAS detector using the 2011 LHC proton-proton collision data”. In: *Eur.Phys.J.* C74 (2014), p. 2941. DOI: 10.1140/epjc/s10052-014-2941-0. arXiv:1404.2240 [hep-ex].
- [295] G. Aad et al. “Measurement of  $\chi_{c1}$  and  $\chi_{c2}$  production with  $\sqrt{s} = 7$  TeV  $pp$  collisions at ATLAS”. In: *JHEP* 1407 (2014), p. 154. DOI: 10.1007/JHEP07(2014)154. arXiv:1404.7035 [hep-ex].
- [296] G. Aad et al. “Measurement of dijet cross sections in  $pp$  collisions at 7 TeV centre-of-mass energy using the ATLAS detector”. In: *JHEP* 1405 (2014), p. 059. DOI: 10.1007/JHEP05(2014)059. arXiv:1312.3524 [hep-ex].
- [297] G. Aad et al. “Measurement of event-plane correlations in  $\sqrt{s_{NN}}=2.76$  TeV lead-lead collisions with the ATLAS detector”. In: *Phys.Rev.* C90 (2014), p. 024905. DOI: 10.1103/PhysRevC.90.024905. arXiv:1403.0489 [hep-ex].
- [298] G. Aad et al. “Measurement of Four-Lepton Production at the  $Z$  Resonance in  $pp$  Collisions at  $\sqrt{s} = 7$  and 8 TeV with ATLAS”. In: *Phys.Rev.Lett.* 112 (2014), p. 231806. DOI: 10.1103/PhysRevLett.112.231806. arXiv:1403.5657 [hep-ex].
- [299] G. Aad et al. “Measurement of the electroweak production of dijets in association with a  $Z$ -boson and distributions sensitive to vector boson fusion in proton-proton collisions at  $\sqrt{s} = 8$  TeV using the ATLAS detector”. In: *JHEP* 1404 (2014), p. 031. DOI: 10.1007/JHEP04(2014)031. arXiv:1401.7610 [hep-ex].
- [300] G. Aad et al. “Measurement of the inclusive isolated prompt photon cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector using 4.6 fb $^{-1}$ ”. In: *Phys.Rev.* D89 (2014), p. 052004. DOI: 10.1103/PhysRevD.89.052004. arXiv:1311.1440 [hep-ex].
- [301] G. Aad et al. “Measurement of the low-mass Drell-Yan differential cross section at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *JHEP* 1406 (2014), p. 112. DOI: 10.1007/JHEP06(2014)112. arXiv:1404.1212 [hep-ex].
- [302] G. Aad et al. “Measurement of the mass difference between top and anti-top quarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *Phys.Lett.* B728 (2014), pp. 363–379. DOI: 10.1016/j.physletb.2013.12.010. arXiv:1310.6527 [hep-ex].
- [303] G. Aad et al. “Measurement of the parity-violating asymmetry parameter  $\alpha_b$  and the helicity amplitudes for the decay  $\Lambda_b^0 \rightarrow J/\psi \Lambda^0$  with the ATLAS detector”. In: *Phys.Rev.* D89 (2014), p. 092009. DOI: 10.1103/PhysRevD.89.092009. arXiv:1404.1071 [hep-ex].
- [304] G. Aad et al. “Measurement of the production cross section of prompt  $J/\psi$  mesons in association with a  $W^\pm$  boson in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1404 (2014), p. 172. DOI: 10.1007/JHEP04(2014)172. arXiv:1401.2831 [hep-ex].

- [305] G. Aad et al. “Measurement of the production of a  $W$  boson in association with a charm quark in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector”. In: *JHEP* 1405 (2014), p. 068. DOI: 10.1007/JHEP05(2014)068. arXiv:1402.6263 [hep-ex].
- [306] G. Aad et al. “Measurement of the top quark pair production charge asymmetry in proton-proton collisions at  $\sqrt{s} = 7$  TeV using the ATLAS detector”. In: *JHEP* 1402 (2014), p. 107. DOI: 10.1007/JHEP02(2014)107. arXiv:1311.6724 [hep-ex].
- [307] G. Aad et al. “Measurement of the underlying event in jet events from 7 TeV proton-proton collisions with the ATLAS detector”. In: *Eur.Phys.J.* C74 (2014), p. 2965. DOI: 10.1140/epjc/s10052-014-2965-5. arXiv:1406.0392 [hep-ex].
- [308] G. Aad et al. “Monitoring and data quality assessment of the ATLAS liquid argon calorimeter”. In: *JINST* 9 (2014), P07024. DOI: 10.1088/1748-0221/9/07/P07024. arXiv:1405.3768 [hep-ex].
- [309] G. Aad et al. “Operation and performance of the ATLAS semiconductor tracker”. In: (2014). DOI: 10.1088/1748-0221/9/08/P08009. arXiv:1404.7473 [hep-ex].
- [310] G. Aad et al. “Search for a multi-Higgs-boson cascade in WWbb events with the ATLAS detector in  $pp$  collisions at  $\sqrt{s} = 8$  TeV”. In: *Phys.Rev.* D89 (2014), p. 032002. DOI: 10.1103/PhysRevD.89.032002. arXiv:1312.1956 [hep-ex].
- [311] G. Aad et al. “Search for dark matter in events with a hadronically decaying  $W$  or  $Z$  boson and missing transverse momentum in  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”. In: *Phys.Rev.Lett.* 112.4 (2014), p. 041802. DOI: 10.1103/PhysRevLett.112.041802. arXiv:1309.4017 [hep-ex].
- [312] G. Aad et al. “Search for dark matter in events with a  $Z$  boson and missing transverse momentum in  $pp$  collisions at  $\sqrt{s}=8$  TeV with the ATLAS detector”. In: *Phys.Rev.* D90 (2014), p. 012004. DOI: 10.1103/PhysRevD.90.012004. arXiv:1404.0051 [hep-ex].
- [313] G. Aad et al. “Search for direct pair production of the top squark in all-hadronic final states in proton-proton collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”. In: *JHEP* 09 (2014), p. 015. DOI: 10.1007/JHEP09(2014)015. arXiv:1406.1122 [hep-ex].
- [314] G. Aad et al. “Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in  $\sqrt{s} = 8$  TeV  $pp$  collisions with the ATLAS detector”. In: *JHEP* 1404 (2014), p. 169. DOI: 10.1007/JHEP04(2014)169. arXiv:1402.7029 [hep-ex].
- [315] G. Aad et al. “Search for direct production of charginos, neutralinos and sleptons in final states with two leptons and missing transverse momentum in  $pp$  collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”. In: *JHEP* 1405 (2014), p. 071. DOI: 10.1007/JHEP05(2014)071. arXiv:1403.5294 [hep-ex].
- [316] G. Aad et al. “Search for direct top squark pair production in events with a  $Z$  boson, b-jets and missing transverse momentum in  $\sqrt{s}=8$  TeV  $pp$  collisions with the ATLAS detector”. In: *Eur.Phys.J.* C74 (2014), p. 2883. DOI: 10.1140/epjc/s10052-014-2883-6. arXiv:1403.5222 [hep-ex].

- [317] G. Aad et al. “Search for direct top-squark pair production in final states with two leptons in pp collisions at  $\sqrt{s} = 8\text{TeV}$  with the ATLAS detector”. In: *JHEP* 1406 (2014), p. 124. DOI: 10.1007/JHEP06(2014)124. arXiv:1403.4853 [hep-ex].
- [318] G. Aad et al. “Search for Higgs boson decays to a photon and a Z boson in pp collisions at  $\sqrt{s}=7$  and 8 TeV with the ATLAS detector”. In: *Phys.Lett.* B732 (2014), pp. 8–27. DOI: 10.1016/j.physletb.2014.03.015. arXiv:1402.3051 [hep-ex].
- [319] G. Aad et al. “Search for Invisible Decays of a Higgs Boson Produced in Association with a Z Boson in ATLAS”. In: *Phys.Rev.Lett.* 112 (2014), p. 201802. DOI: 10.1103/PhysRevLett.112.201802. arXiv:1402.3244 [hep-ex].
- [320] G. Aad et al. “Search for microscopic black holes and string balls in final states with leptons and jets with the ATLAS detector at  $\text{sqrt}(s) = 8\text{ TeV}$ ”. In: *JHEP* 1408 (2014), p. 103. DOI: 10.1007/JHEP08(2014)103. arXiv:1405.4254 [hep-ex].
- [321] G. Aad et al. “Search for new particles in events with one lepton and missing transverse momentum in pp collisions at  $\sqrt{s} = 8\text{ TeV}$  with the ATLAS detector”. In: (2014). DOI: 10.1007/JHEP09(2014)037. arXiv:1407.7494 [hep-ex].
- [322] G. Aad et al. “Search for new phenomena in photon+jet events collected in proton–proton collisions at  $\text{sqrt}(s) = 8\text{ TeV}$  with the ATLAS detector”. In: *Phys.Lett.* B728 (2014), pp. 562–578. DOI: 10.1016/j.physletb.2013.12.029. arXiv:1309.3230 [hep-ex].
- [323] G. Aad et al. “Search for Quantum Black-Hole Production in High-Invariant-Mass Lepton+Jet Final States Using Proton-Proton Collisions at  $\text{sqrt}(s) = 8\text{ TeV}$  and the ATLAS Detector”. In: *Phys.Rev.Lett.* 112 (2014), p. 091804. DOI: 10.1103/PhysRevLett.112.091804. arXiv:1311.2006 [hep-ex].
- [324] G. Aad et al. “Search for supersymmetry at  $\sqrt{s}=8\text{ TeV}$  in final states with jets and two same-sign leptons or three leptons with the ATLAS detector”. In: *JHEP* 1406 (2014), p. 035. DOI: 10.1007/JHEP06(2014)035. arXiv:1404.2500 [hep-ex].
- [325] G. Aad et al. “Search for supersymmetry in events with four or more leptons in  $\sqrt{s} = 8\text{ TeV}$  pp collisions with the ATLAS detector”. In: *Phys.Rev.* D90 (2014), p. 052001. DOI: 10.1103/PhysRevD.90.052001. arXiv:1405.5086 [hep-ex].
- [326] G. Aad et al. “Search for top quark decays  $t \rightarrow qH$  with  $H \rightarrow \gamma\gamma$  using the ATLAS detector”. In: *JHEP* 1406 (2014), p. 008. DOI: 10.1007/JHEP06(2014)008. arXiv:1403.6293 [hep-ex].
- [327] G. Aad et al. “Search for  $WZ$  resonances in the fully leptonic channel using pp collisions at  $\sqrt{s} = 8\text{ TeV}$  with the ATLAS detector”. In: (2014). DOI: 10.1016/j.physletb.2014.08.039. arXiv:1406.4456 [hep-ex].
- [328] G. Aad et al. “Standalone vertex finding in the ATLAS muon spectrometer”. In: *JINST* 9 (2014), P02001. DOI: 10.1088/1748-0221/9/02/P02001. arXiv:1311.7070 [physics.ins-det].

- [329] G. Aad et al. “The differential production cross section of the  $\phi$  (1020) meson in  $\sqrt{s} = 7$  TeV  $pp$  collisions measured with the ATLAS detector”. In: *Eur.Phys.J. C74* (2014), p. 2895. DOI: 10.1140/epjc/s10052-014-2895-2. arXiv:1402.6162 [hep-ex].

DOCUMENTI PUBBLICI NON PUBBLICATI SU RIVISTA

- [330] L. Carminati. “Study of the  $H \rightarrow \gamma\gamma$  decay with the ATLAS detector”. In: (2004), pp. 925–928.
- [331] L. Carminati and P. Meridiani. “Electrons and photons reconstruction in ATLAS and CMS”. In: (2004), pp. 115–130.
- [332] A. Barriuso Poy et al. “Hierarchical control for the ATLAS experiment”. In: (2005), TU2.4–20.
- [333] L. Carminati. “The ATLAS Liquid Argon electromagnetic calorimeter”. In: *AIP Conf.Proc.* 794 (2005), pp. 295–298. DOI: 10.1063/1.2125674.
- [334] L. Carminati. “Search for a Standard Model Higgs boson in the  $H \rightarrow \gamma\gamma$  channel with the ATLAS detector”. In: (2006).
- [335] D. Banfi, L. Carminati, and L. Mandelli. “Calibration of the ATLAS electromagnetic calorimeter using calibration hits”. In: *ATL-LARG-PUB-2007-012* (2007).
- [336] M. Bettinelli et al. “Search for a SM Higgs decaying to two photons with the ATLAS detector”. In: *ATL-PHYS-PUB-2007-013* (2007).
- [337] G. Aad et al. “Expected Performance of the ATLAS Experiment - Detector, Trigger and Physics”. In: (2009). arXiv:0901.0512 [hep-ex].
- [338] F. Ambroglini et al. “Proceedings, Workshop on Monte Carlo’s, Physics and Simulations at the LHC. Part I”. In: (2009). arXiv:0902.0293 [hep-ph].
- [339] F. Ambroglini et al. “Proceedings, Workshop on Monte Carlo’s, Physics and Simulations at the LHC. Part II”. In: (2009). arXiv:0902.0180 [hep-ph].
- [340] J. Andersen et al. “The SM and NLO Multileg Working Group: Summary report”. In: (2010), pp. 21–189. arXiv:1003.1241 [hep-ph].
- [341] L. Carminati. “Prompt photon measurements with the ATLAS detector”. In: (2012), pp. 671–674. DOI: 10.3204/DESY-PROC-2012-02/81.
- [342] L. Rinaldi et al. “The ATLAS Computing activities and developments of the Italian Cloud”. In: (2012).
- [343] P. Lenzi and L. Carminati. “Photon and Jet measurements in  $pp$  collisions at the LHC”. In: *PoS LHCPP2013* (2013), p. 018.
- [344] G. Aad et al. “Electron and photon energy calibration with the ATLAS detector using LHC Run 1 data”. In: (2014). arXiv:1407.5063 [hep-ex].
- [345] G. Aad et al. “Measurement of Higgs boson production in the diphoton decay channel in  $pp$  collisions at center-of-mass energies of 7 and 8 TeV with the ATLAS detector”. In: (2014). arXiv:1408.7084 [hep-ex].
- [346] L. Carminati. “Recent results on the Higgs boson searches in the  $\gamma\gamma$  and  $Z\gamma$  decay channels with the ATLAS detector”. In: *Nuovo Cim.* C037.01 (2014), pp. 239–243. DOI: 10.1393/ncc/i2014-11697-2.

NOTE INTERNE (NON PUBBLICHE)

- [347] H Abreu et al. *Higgs to Gamma Gamma in Early Data*. Tech. rep. ATL-COM-PHYS-2010-812. Geneva: CERN, 2009.
- [348] D Banfi et al. *The measurement of the energy of electrons and photons in the ATLAS electromagnetic calorimeters*. Tech. rep. ATL-COM-PHYS-2010-068. Geneva: CERN, 2009.
- [349] H Abreu et al. *Electron and photon reconstruction and identification results from ATLAS at 900 GeV*. Tech. rep. ATL-COM-PHYS-2010-172. Geneva: CERN, 2010.
- [350] H Abreu et al. *Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s} = 7\text{TeV}$  with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2010-802. Geneva: CERN, 2010.
- [351] H Abreu et al. *Prospects for the Exclusion of a SM Higgs Decaying into Two Photons*. Tech. rep. ATL-COM-PHYS-2010-170. Geneva: CERN, 2010.
- [352] H Abreu et al. *Purity Estimates for the Inclusive Isolated Photons*. Tech. rep. ATL-COM-PHYS-2010-804. Geneva: CERN, 2010.
- [353] H Abreu et al. *Search for the Higgs boson in the diphoton final state with  $37.6\text{ pb}^{-1}$  of data recorded by the ATLAS detector at  $\sqrt{s}=7\text{ TeV}$* . Tech. rep. ATL-COM-PHYS-2011-167. Geneva: CERN, 2010.
- [354] H Abreu et al. *Update of the prospects for the exclusion of a SM Higgs decaying to two photons*. Tech. rep. ATL-COM-PHYS-2010-495. Geneva: CERN, 2010.
- [355] H. Abreu Aguilar et al. *Calculating The Purity of Direct Photon Candidates in ATLAS: Proposed Methods and Plans for Early Data*. Tech. rep. ATL-COM-PHYS-2010-233. Geneva: CERN, 2010.
- [356] L Carminati et al. *Reconstruction and Identification Efficiency of Inclusive Isolated Photons*. Tech. rep. ATL-COM-PHYS-2010-803. Geneva: CERN, 2010.
- [357] H Abreu et al. *Measurement of isolated di-photon cross section in pp collision at  $\sqrt{s} = 7\text{ TeV}$  with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2011-301. Geneva: CERN, 2011.
- [358] H Abreu et al. *Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s} = 7\text{ TeV}$  with the ATLAS detector using  $35\text{ pb}^{-1}$* . Tech. rep. ATL-COM-PHYS-2011-239. Geneva: CERN, 2011.
- [359] H Abreu et al. *Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s} = 7\text{ TeV}$  with the ATLAS detector using  $35\text{ pb}^{-1}$* . Tech. rep. ATL-COM-PHYS-2011-645. Supporting note of latest 2010 SM inclusive photon cross section measurement, approved by ATLAS and submitted for publication. Geneva: CERN, 2011.
- [360] H Abreu et al. *Search for the Standard Model Higgs Boson in pp collisions at  $\sqrt{s} = 7\text{ TeV}$  with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2011-308. Geneva: CERN, 2011.
- [361] H Abreu et al. *Study of the Di-Photon Backgrounds to the  $H \rightarrow \text{gammagamma}$  Search with the ATLAS detector at  $\sqrt{s}=7\text{ TeV}$* . Tech. rep. ATL-COM-PHYS-2011-009. Geneva: CERN, 2011.

- [362] M Agustoni et al. *Electromagnetic energy scale in-situ calibration and performance: Supporting document for the egamma performance paper*. Tech. rep. ATL-COM-PHYS-2011-263. Geneva: CERN, 2011.
- [363] J Cantero et al. *Measurement of the isolated photon plus jet cross section in pp collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2011-870. Geneva: CERN, 2011.
- [364] J Cantero et al. *Measurement of the production cross section of an isolated photon associated with jets in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2011-1498. Geneva: CERN, 2011.
- [365] H Abreu et al. *Search for the Standard Model Higgs boson in the  $H \rightarrow Z\gamma$  decay mode with  $20.7 \text{ fb}^{-1}$  of pp collisions at  $\sqrt{s} = 8$  TeV and  $4.6 \text{ fb}^{-1}$  of pp collisions at  $\sqrt{s} = 7$  TeV*. Tech. rep. ATL-COM-PHYS-2012-1795. Geneva: CERN, 2012.
- [366] R Blair et al. *Inclusive cross sections of isolated prompt photons in pp collisions at  $\sqrt{s} = 7$  TeV measured with the ATLAS detector using  $4.6 \text{ fb}^{-1}$* . Tech. rep. ATL-COM-PHYS-2012-1812. paper draft. Geneva: CERN, 2012.
- [367] R Blair et al. *Measurement of the inclusive isolated prompt photon cross section in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector using  $4.6 \text{ fb}^{-1}$* . Tech. rep. ATL-COM-PHYS-2012-758. Geneva: CERN, 2012.
- [368] J Cantero et al. *Dynamics of isolated-photon plus jet production in pp collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2012-1335. Geneva: CERN, 2012.
- [369] J Cantero et al. *Dynamics of isolated-photon plus jet production in pp collisions at  $\sqrt{s}=7$  TeV with the ATLAS detector: Paper draft*. Tech. rep. ATL-COM-PHYS-2012-1797. Geneva: CERN, 2012.
- [370] L Carminati et al. *Measurement of the isolated di-photon cross section in  $4.9 \text{ fb}^{-1}$  of pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2012-592. Geneva: CERN, 2012.
- [371] L Carminati et al. *Measurement of the isolated di-photon cross section in pp collisions at  $\sqrt{s} = 7$  TeV with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2012-1078. Geneva: CERN, 2012.
- [372] M Delmastro et al. *Measurements of the photon identification efficiency with the ATLAS detector using  $4.9 \text{ fb}^{-1}$  of pp collision data collected in 2011*. Tech. rep. ATLAS-COM-CONF-2012-139. Geneva: CERN, 2012.
- [373] H Abreu et al. *Background Studies for  $H \rightarrow Z\gamma$* . Tech. rep. ATL-COM-PHYS-2013-082. Geneva: CERN, 2013.
- [374] H Abreu et al. *Signal Studies for  $H \rightarrow Z\gamma$* . Tech. rep. ATL-COM-PHYS-2013-081. Geneva: CERN, 2013.
- [375] H Abreu et al. *Statistics studies for  $H \rightarrow Z\gamma$  search with the 2011 and 2012 ATLAS data*. Tech. rep. ATL-COM-PHYS-2013-083. Geneva: CERN, 2013.
- [376] N Andari et al. *Calibration systematic uncertainties : overview and correlations*. Tech. rep. ATL-COM-PHYS-2013-1654. Geneva: CERN, 2013.
- [377] T Barklow et al. *Search for the Standard Model Higgs boson in the  $H \rightarrow Z\gamma$  decay mode with  $20.3 \text{ fb}^{-1}$  of pp collisions at  $\sqrt{s} = 8$  TeV and  $4.6 \text{ fb}^{-1}$  of pp collisions at  $\sqrt{s} = 7$  TeV*. Tech. rep. ATL-COM-PHYS-2013-1397. Geneva: CERN, 2013.



- [378] J Adelman et al. *Measurements of Higgs boson production in the diphoton decay channel with the ATLAS detector*. Tech. rep. ATL-COM-PHYS-2014-259. Geneva: CERN, 2014.
- [379] J.-B. Blanchard et al. *Comparison of the response of the ATLAS detector to electromagnetic processes in data at 8 TeV and simulation using different G4 setups*. Tech. rep. ATL-COM-PHYS-2014-169. Geneva: CERN, 2014.
- [380] M Boonekamp et al.  *$e/\gamma$  calibration plots*. Tech. rep. ATL-COM-PHYS-2014-527. Geneva: CERN, 2014.
- [381] L Carminati et al. *Search for new phenomena with the ATLAS detector in monophoton events from proton-proton collisions at  $\sqrt{s}=8\text{TeV}$* . Tech. rep. ATL-COM-PHYS-2014-348. Geneva: CERN, 2014.

Milano, 15 giugno 2015