Prof. Marco Zanetti

Department of Physics and Astronomy, University of Padua

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Academic positions

- 2014 - : Associate Professor, Department of Physics and Astronomy, University of Padua
- 2010 - 2014: Senior research associate at the Laboratory of Nuclear Science, MIT
- 2007 - 2009: Research fellow, CERN
- 2004 - 2006 : PhD associate, Department of Physics and Astronomy, University of Padua
- 2003 - 2003 : Scientific associate, INFN Padua

Scientific leadership

Management of projects with a budget

- 2017 - : Coordinator WP6.6, Accelerator Performance and Concepts, ARIES project, Grant Agreement number 730871, H2020
- 2017 - : Local responsible of the "R&D for Future Accelerators" group, INFN

Management roles in experimental collaborations

- 2016 - : Member of LEMMA Steering Committee
- 2016 - : LEMMA experimental tests coordinator
- 2012 - 2015: Member of CMS Physics Coordination Committee
- 2012 - 2015: Coordinator of CMS Luminosity Group
- 2011 - 2012: Coordinator of CMS Tier0 operations
- 2012 - 2014: Member of TLEP Steering Committee
- 2009 - 2010: LHC Point Owner, member of the LHC Commissioning Coordination
- 2009 - 2010: LHC Engineer in Charge
- 2007 - 2008: Coordinator of the CMS HLT operations
- 2007 - 2008: Coordinator of the CMS Trigger, Offline and Online Forum

Management roles at University of Padua

- 2018 - : Member of the Department of Physics PhD School council
- 2016 - : Chair of "Physics of Data" major
- 2015 - : Executive Board member, Department of Physics and Astronomy

Overview of the research activity

Since my master degree, particle physics at colliders has been my field of research. I have been based at CERN in Geneva between 2004 and 2014 when I moved to Padua as tenured professor.

Trigger-less readout. Exploiting advanced hardware and software (Big-Data) technology, I?ve been developing trigger-less readout and an online processing system for HEP detectors.

Future accelerators for HEP. Since the discovery of the Higgs boson in 2012, I've been working on several options for the next large high energy accelerator, in particular HL-LHC [27], LEP3/TLEP [28][29][30][31][32], Sapphire [33] and more recently LEMMA (a novel idea for a high brillance muon source). I have been coordinating the LEMMA experimental activities, in particular the beam tests at CERN North Area with a low intensity 45 GeV positron beam on target.

Machine Learning for any HEP. ML techniques can be exploited to solve technological issues and boost the sensitivity of the LHC data analysis. In particular I've been investigating how unsupervised learning algorithm could minimise the bias in the searches for new phenomena. My group is currently testing how such algorithm can classify particles tracks in a cloud chamber experiment.

New Physics searches at CMS. During the first LHC run (2011-16), my group analysed the CMS data to search for exotic new physics, in particular Dark Matter [1][2][3] and new resonant states decaying into weak bosons pairs [4][5][6][7]. Specifically for Dark Matter searches, the theoretical interpretation of the analysis results requires special care [8][9].

Higgs Boson Physics. I contributed directly at the discovery of the Higgs Boson at CMS, studying the decay into a pair of W bosons with the data collected in 2011 and 2012 [10][11][12]. I studied the compatibility of the measured properties of the Higgs Boson in terms of coupling strength with the other particles, comparing them with the predictions of the SM [13][14][15][16]. Furthermore I analysed the results of the measurements in the context of Supersimmetric theories [17]. The discovery of the Higgs Boson finalised the work I started during my PhD, when tools and analysis strategies have been developed [18][19][20][21].

LHC hardware commissioning. After the accident that caused the fatal damage of a km long LHC section in 2009, I joined the team responsible for the re-commissioning of the LHC superconducting circuits and magnets, bringing finally the accelerator to the first beam operation in 2010 [22] and its first high energy run in 2011 [23].

Luminosity measurement. I made use of the experience gathered working on the commissioning and initial operations of the LHC, by measuring the luminosity delivered to CMS [25], exploiting in particular a novel technique ("beam imaging" [24]). Those measurements have been pivotal for the determination of the W and Z production cross section [26] at 7 and 8 TeV.

High Level Trigger at CMS. As a CERN fellow (2007-2008), I developed and commissioned the CMS High Level Trigger, taking care also of the first operations prior to the LHC accident in September 2008 [34].

Drift Tubes chambers. Between 2003 and 2007 I worked on the construction, test [35], integration [41], commissioning [37][36] and operations[39][40] of the Drift Tubes chambers (DT), the muon detector of the CMS barrel. Since 2018 I'm leading the realisation of a new Drift Tube base detector to be employed at beam-tests and for testing of HL-LHC electronics.

Conferences and seminars

Seminars

- 2019, University of Geneva, Geneva, *A Muon Collider for the future of HEP*
- 2017, IIT, Genova, *Machine Learning and Data-based Physics*
- 2016, CERN, Geneva, *LEMMA, a Low Emittance Muon Accelerator*
- 2014, Scuola Normale Superiore, Pisa, *TLEP, a very large electron-positron circular Higgs factory*
- 2014, Institute for Advanced Studies, Princeton, *The Future Circular Collider project*
- 2014, Princeton University, Princeton, *The Higgs searhes at CMS and perspective for HL-LHC*
- 2013, CPPM, Marseille, *The Higgs searhes at CMS and future Higgs Factories*

- 2013, IPNL, Lyon, *The Higgs searhes at CMS and future Higgs Factories*
- 2013, LNF, Frascati National Laboratory, *Sapphire, a cost effective photon collider*
- 2013, CERN, Geneva, *Recommendations for studying the Higgs properties*
- 2012, MIT, Boston, *Future Higgs Factories*

Contributions to international conferences

- 2018, Naples, **Joint WLCG HSF workshop**, *A new major on Physics and Data Science*
- 2013, Friburg, **Higgs Couplings**, *Projections for Higgs Physics at LHC and HLLHC*
- 2013, La Biodola, **European conference on Advance Accelerator Concepts**, *New Collider Concepts for Particle Physics*
- 2013, MIT, **Scenarios for future Higgs Physics (Snowmass)**, *Photon collider as a Higgs factory*
- 2012, Fermilab, **ICFA workshop on Higgs Factories**, *Beam-strahlung simulation for e+e- circular collider*
- 2012, CERN, **Joint Snowmass EuCARD/AccNet HiLumi LHC meeting**, *Parameters*
- *2012, Kyoto,* **Hadron Collider Physics symposium**, Higgs properties at CMS
- *2011, CERN,* **CERN PH seminar**, Higgs searches with CMS
- *2011, CERN,* **LHC Luminosity workshop**, Beams scan based Absolute Normalization of the CMS Luminosity Measurement
- *2009, La Thuile,* **Les Rencontres de Physique de la Vallée d'Aoste**, First LHC beams in CMS
- *2006, Coimbra,* **TOP2006, Conference on Top quark physics**, The Top background to the $H \to WW$ Higgs discovery channel *for e+e- circular collider in a 80 km tunnel*
- 2006, Frascati National Laboratory, **Monte Carlo Workshop on LHC physics**, *The search for the Higgs Boson at the LHC*
- 2005, Les Houches, **Les Houches workshop, Physics at TeV Colliders**, *Background systematics to the $H \to WW$ Higgs discovery channel*

Organisation of international conferences

- 2018, Padua, **ARIES Muon Collider Workshop**, organizer and chairman
- 2017, Padua, **ARIES Photon Beams 2017**, organizer and chairman
- 2017, Venice, **European Physics Society Conference**, scientific secretary
- 2012/13, CERN, **Workshop series on TLEP3 machines**, organizer and chairman
- 2013, CERN, **SAPPHiRE day**, organizer and chairman
- 2011, Chamonix, **2011 Chamonix LHC workshop**, organizer and chairman

Teaching activities

- 2018, Laboratory of Computational Physics, master degree in Physics of Data, University of Padua
- 2018, Data Analysis and Machine Learning, Scuola Galileiana di Studi Superiori
- 2018, Advanced topics on Electrodynamics, Scuola Galileiana di Studi Superiori
- 2017, Physics at LHC and beyond, International Doctorate Network in Particle Physics, Astrophysics and Cosmology
- 2015 - , Electromagnetism and optics, bachelor's degree in Physics, University of Padua
- 2015 - , General Physics, bachelor's degree in Biotechnology, University of Padua
- 2012 - 2013: Particle Physics, 8.811, MIT, TA

Students and postdocs supervision

Postdoc

- Jacopo Pazzini (2015-16): *Dark matter searches at CMS*
- Alberto Zucchetta (2015-16): *Dark matter searches at CMS*
- Paul Lujan (2016-): *Higgs boson physics at CMS and application of Machine Learning techniques on HEP topics*

PhD students

- Lisa Benato (2015-16): *Diboson resonance searches at CMS*
- Siew Yan Hoh (2017-): *Measurement of the top Yukawa coupling at CMS*
- Marco D'Andrea (2017-): *Crystal collimation at LHC*

Graduate students

- Federico Pobbe (2015-16): *An optimal limit setting procedure for heavy dark matter mediators*
- Marco D'andrea (2017): *Determination of BLM threshold to protect collimators at LHC*
- Francesco Forcher (2016-17): *An improved simulation routine for modelling coherent high-energy proton interactions with bent crystals*
- Gaia Grosso (2017): *Deep Learning techniques to search for New Physics at LHC*
- Altea Lorenzon (2017): *Beam test with positrons on target for the production of a low emittance muon beam*
- Gianmarco Pompeo (2017): *Study of the performance of the CMS Pixel Luminosity Telescope*

Publications

The complete list of publications is available on the internet at: `http://inspirebeta.net/author/M.Zanetti.1`
The total number is currently 737, of which 648 published on peer-reviewed journals, with $h_{HEP} = 124$. I'm co-author of 102 internal notes of the CMS experiments. In addition I published papers on HEP phenomenology (hep-ph) and accelerator physics (hep-ac). A list of selected publications can be found at the end of this document.

Education

- 2007: PhD in Physics, University of Padua, *The $H \to W^+W^- \to \mu^+\bar{\nu}\mu^-\nu$ Higgs discovery channel at CMS*
- 2003: Master degree in Physics, University of Padua, 110/110 cum laude
- 2001: CERN Summer Student

References

[1] A. M. Sirunyan *et al.* [CMS Collaboration], "Search for dark matter produced with an energetic jet or a hadronically decaying W or Z boson at $\sqrt{s} = 13$ TeV," JHEP **1707**, 014 (2017) doi:10.1007/JHEP07(2017)014 [arXiv:1703.01651 [hep-ex]].

[2] CMS Collaboration [CMS Collaboration], "Search for new physics in final states with an energetic jet or a hadronically decaying W or Z boson using 35.9 fb^{-1} of data at $\sqrt{s} = 13$ TeV," CMS-PAS-EXO-16-048.

[3] CMS Collaboration [CMS Collaboration], "Search for Dark Matter produced in association with bottom quarks," CMS-PAS-B2G-15-007.

[4] CMS Collaboration [CMS Collaboration], "Search for heavy resonances decaying into a vector boson and a Higgs boson in the (ll, lnu, nunu) bb final state," CMS-PAS-B2G-16-003.

[5] CMS Collaboration [CMS Collaboration], "Combination of diboson resonance searches at 8 and 13 TeV," CMS-PAS-B2G-16-007.

[6] CMS Collaboration [CMS Collaboration], "Search for heavy resonances decaying into a Z boson and a W boson in the $\ell^+\ell^-$q$\bar{\text{q}}$ final state," CMS-PAS-B2G-16-022.

[7] CMS Collaboration [CMS Collaboration], "Search for heavy resonances decaying into a Z boson and a vector boson in the $\nu\nu$ $q\bar{q}$ final state," CMS-PAS-B2G-17-005.

[8] F. Pobbe, A. Wulzer and M. Zanetti, JHEP **1708**, 074 (2017) doi:10.1007/JHEP08(2017)074 [arXiv:1704.00736 [hep-ph]].

[9] D. Abercrombie *et al.*, "Dark Matter Benchmark Models for Early LHC Run-2 Searches: Report of the ATLAS/CMS Dark Matter Forum," arXiv:1507.00966 [hep-ex].

[10] S. Chatrchyan *et al.* [CMS Collaboration], "Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC," Phys. Lett. B **716**, 30 (2012) [arXiv:1207.7235 [hep-ex]].

[11] S. Chatrchyan *et al.* [CMS Collaboration], "Measurement of Higgs boson production and properties in the WW decay channel with leptonic final states," JHEP **1401**, 096 (2014) [arXiv:1312.1129 [hep-ex]].

[12] S. Chatrchyan *et al.* [CMS Collaboration], "Observation of a new boson with mass near 125 GeV in pp collisions at $\sqrt{s}$ = 7 and 8 TeV," JHEP **1306**, 081 (2013) [arXiv:1303.4571 [hep-ex]].

[13] M. Zanetti, "Characterization of the Higgs boson candidate at CMS," EPJ Web Conf. **49**, 12015 (2013).

[14] A. David *et al.* [LHC Higgs Cross Section Working Group Collaboration], "LHC HXSWG interim recommendations to explore the coupling structure of a Higgs-like particle," arXiv:1209.0040 [hep-ph].

[15] G. Aad *et al.* [ATLAS and CMS Collaborations], "Measurements of the Higgs boson production and decay rates and constraints on its couplings from a combined ATLAS and CMS analysis of the LHC pp collision data at $\sqrt{s} = 7$ and 8 TeV," JHEP **1608**, 045 (2016) doi:10.1007/JHEP08(2016)045 [arXiv:1606.02266 [hep-ex]].

[16] V. Khachatryan *et al.* [CMS Collaboration], "Precise determination of the mass of the Higgs boson and tests of compatibility of its couplings with the standard model predictions using proton collisions at 7 and 8 TeV" Eur. Phys. J. C **75**, no. 5, 212 (2015) doi:10.1140/epjc/s10052-015-3351-7 [arXiv:1412.8662 [hep-ex]].

[17] R. T. D'Agnolo, E. Kuflik and M. Zanetti, "Fitting the Higgs to Natural SUSY," JHEP **1303**, 043 (2013) [arXiv:1212.1165].

[18] G. L. Bayatian *et al.* [CMS Collaboration], "CMS technical design report, volume II: Physics performance," J. Phys. G **34**, 995 (2007).

[19] C. Buttar, S. Dittmaier, V. Drollinger, S. Frixione, A. Nikitenko, S. Willenbrock, S. Abdullin and E. Accomando *et al.*, "Les houches physics at TeV colliders 2005, standard model and Higgs working group: Summary report," hep-ph/0604120.

[20] G. Davatz, A. S. Giolo-Nicollerat and M. Zanetti, "Top background to SM Higgs searches in the fully leptonic WW decay mode at CMS," PoS TOP **2006**, 027 (2006) [hep-ex/0604041].

[21] S. Chatrchyan *et al.* [CMS Collaboration], "Measurement of W^+W^- Production and Search for the Higgs Boson in pp Collisions at $\sqrt{s} = 7$ TeV," Phys. Lett. B **699**, 25 (2011)

[22] M. Solfaroli Camillocci, G. Arduini, B. Bellesia, J. Coupard, K. Dahlerup-Petersen, M. Koratzinos, M. Pojer and M. Zanetti *et al.*, "Commissioning of the LHC Magnet Powering System in 2009" Conf. Proc. C **100523**, MOPEB045 (2010).

[23] A. Siemko and M. Zanetti, "Summary of the LHC Beam Energy Session" CERN-2011-005.

[24] M. Zanetti, "Beams Scan based Absolute Normalization of the CMS Luminosity Measurement. CMS 2010 luminosity determination" CERN-Proceedings-2011-001.

[25] S. Chatrchyan *et al.* [CMS Collaboration], "CMS Luminosity Based on Pixel Cluster Counting - Summer 2013 Update " CMS-PAS-LUM-13-001.

[26] S. Chatrchyan *et al.* [CMS Collaboration], "Measurement of inclusive W and Z boson production cross sections in pp collisions at sqrt(s) = 8 TeV," arXiv:1402.0923 [hep-ex].

[27] [CMS Collaboration], "Projected Performance of an Upgraded CMS Detector at the LHC and HL-LHC: Contribution to the Snowmass Process," arXiv:1307.7135.

[28] A. P. Blondel, F. Zimmermann, M. Koratzinos and M. Zanetti, "LEP3: A High Luminosity e+ e- Collider in the LHC Tunnel to Study the Higgs Boson," IPAC-2012-TUPPR078.

[29] A. Blondel, M. Koratzinos, R. W. Assmann, A. Butterworth, P. Janot, J. M. Jimenez, C. Grojean and A. Milanese *et al.*, "LEP3: A High Luminosity e^+e^- Collider to study the Higgs Boson," arXiv:1208.0504 [physics.acc-ph].

[30] P. Azzi, C. Bernet, C. Botta, P. Janot, M. Klute, P. Lenzi, L. Malgeri and M. Zanetti, "Prospective Studies for LEP3 with the CMS Detector," arXiv:1208.1662 [hep-ex].

[31] M. Koratzinos, A. P. Blondel, R. Aleksan, O. Brunner, A. Butterworth, P. Janot, E. Jensen and M. Zanetti *et al.*, "TLEP: A High-Performance Circular e^+e^- Collider to Study the Higgs Boson," arXiv:1305.6498 [physics.acc-ph].

[32] M. Zanetti *et al.* [TLEP Design Study Working Group Collaboration], "First Look at the Physics Case of TLEP," JHEP **1401**, 164 (2014) [arXiv:1308.6176 [hep-ex]].

[33] S. A. Bogacz, J. Ellis, L. Lusito, D. Schulte, T. Takahashi, M. Velasco, M. Zanetti and F. Zimmermann, "SAPPHiRE: a Small Gamma-Gamma Higgs Factory," arXiv:1208.2827 [physics.acc-ph].

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In compliance with the Italian legislative Decree no. 196 dated 30/06/2003 and the GDPR 679/16, I hereby authorize you to use and process my personal details contained in this document.

27 April 2020

Marco Zanetti

All. 3

Istituto Nazionale di Fisica Nucleare
SEZIONE DI PADOVA

Bando n. 22177/2020 per il conferimento di n. 1 assegno di ricerca tecnologica presso la Sezione di Padova

Ai fini della **valutazione dei titoli**, la Commissione stabilisce che i 30 punti previsti dall'art. 5 del bando vengano così ripartiti:

a) voto di laurea, fino ad un massimo di 15 punti e precisamente

per voto compreso fra 110L e 110	15 punti
per voto compreso fra 106 e 109	12 punti
per voto compreso fra 100 e 105	10 punti
per voto compreso fra 95 e 99	8 punti
per voto inferiore a 95	0 punti

b) conseguimento del titolo di dottore di ricerca, 4 punti

c) corso di dottorato o equivalente (in alternativa alla lettera b), fino ad un massimo di 3 punto

d) diplomi di specializzazione e attestati di frequenza a corsi di perfezionamento post-laurea, sia in Italia sia all'estero, fino ad un massimo di 2 punti

e) svolgimento di attività di ricerca presso soggetti pubblici e privati, con contratti, borse di studio o incarichi, sia in Italia sia all'estero, attinenti al bando fino ad un massimo di 5 punti

f) attività tecnologica e pubblicazioni, fino ad un massimo di 4 punti

Ai fini della **valutazione dell'esame-colloquio**, la Commissione stabilisce che i 70 punti previsti dall'art. 5 del bando vengano così ripartiti:

a	Chiarezza e organizzazione nell'esposizione	10
b	Conoscenza della lingua inglese	10
c	Conoscenza della tematica tecnologica inerente al bando	25
d	Conoscenza delle tecnologie da utilizzare per svolgere l'attività di ricerca	25
	Totale	**70**

C. Braggio

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Education/Current position

2001 M.Sc. Physics, University of Padova (supervisor: C. Voci)
2007 PhD in Physics, University of Ferrara (supervisor: P. Dal Piaz)
2011 – current position: Researcher at the University of Padova

Other positions

- Postdoctoral Fellow (Jan 2009 – Dec 2010), University of Padova.
- Collaboration Contract (June 2009 – Aug 2009), financed by the Schwinger Foundation, USA.
- Research Fellow Contract (Oct 2008 – May 2009), Humboldt-Universitaet zu Berlin, Germany.
- Postdoctoral Fellow (Jan 2007 – Dec 2008), University of Padova.
- INFN Scholarship (Oct 2002 – Jan 2004)
- Summer student, (Jun 2002 – Oct 2002) CERN European Organization for Nuclear Research, Geneve, Switzerland

FUNDING ID

PI ATTRACT `https://attract-eu.com` - "A STimulated EMission Sensor" (STEMS) project
funded by EU Commission, 100 keuro, 1 year duration, project closure 2020

Responsible WP2 of the INFN AXIOn MAterials (AXIOMA) project
funded by INFN group 5 call, 1 Meuro, 5 years, closure 2018

PI Project "Mode-locked laser systems to investigate quantum electrodynamics effects "
funded by University of Padova, 75 keuro, project closure 31/03/2016

Organization of scientific events

Organizing Committee "Axions: Experimental, Cosmological and Theoretical Aspects" Workshop, Padova (2020)
Scientific secretary of the "Dark Matter" session at EPS-HEP 2017, Venezia (2017).
Technical Program Chair at "Casimir Physics", Les Houches (France) (2014).

Editor: PoS EPS-HEP2017 congress (Dark Matter)

International Patents

C. Braggio
Title: **Method and system for characterizing short and ultrashort laser pulses emitted with a high repetition rate**
International application number PCT/IB2014/061062

Teaching activity

From AA 2015/2016 to (– current) General Physics 2, Material Science (Padova University).
From AA 2010/2011 to AA 2012/2015 Optics Laboratory, Physics (Padova University).

Presentations / Invited seminars

1. FPUA (11th workshop on Fundamental Physics Using Atoms) Okinawa, 1-4/03/2019
   Title: *Macro-coherence in YLF:Er^{3+}*
2. VISTAS on Detector Physics Workshop, Heidelberg, 30/09 and 01/10/2019
   Title: *Probing the axion-electron coupling in cm-scale atomic targets* **-invited-**
3. Invisibles18 Workshop, Karlsruhe, 3-7/09/2018
   Title: *Axion - Experiments overview* **-invited-**

4. QUANTUM Seminars, Mainz, 02/09/2017
   Title: *Detection of axion dark matter in condensed matter, with a focus on tabletop-scale experiments* **-invited-**

5. GPMFC Workshop: Ultralight Dark Matter at the APS April Meeting 2017, 27/01/2017, Washington (USA)
   Title: *Magnetized Media as Detectors for Galactic Axions* **-invited-**

6. UMC 2017- **Ultrafast Magnetism Conference**, Kaiserslautern 9-13/10/2017
   Title: *Optical control of the magnetization in YIG via multi-GHz laser pulses*

7. First International Conference on Quantum gases, Fundamental interactions, and Cosmology, Pisa 25-27/10/2017
   Title: *Detection of axion dark matter in solid state materials: exploiting the axion-electron coupling*

8. Workshop on Axion Physics and Experiments, 27-28/03/2017 Laboratori Nazionali di Frascati
   Title: *AXIOMA: Rare-earth doped materials as detectors for Galactic Axions* **-invited-**

9. FISMAT 2017, Congresso nazionale di fisica della materia condensata, Trieste 2-6/10/2017
   Title: *Optical manipulation of a magnon-photon hybrid system*

10. 2nd ATTRACT TWD Symposium in detection and imaging, 11/10/2016 Strasburgo
    Title: *Laser techniques for a new class of scintillators*

11. 12th PATRAS Workshop on Axions, Wimps and Wisps, 20-24/06/2016 Jeju Islans, (South Korea)
    Title: *QUAX and AXIOMA: new experimental methods in axion detection*

12. ANSRI2016 (Applications of Novel Scintillators for Research and Industry) workshop, 11-13/05/2016, Dublino
    Title: *Laser-driven scintillation detectors*

13. 101° congresso SIF, 26-30/09/2016 Padova
    Title: *Magnetized Media as Detectors for Galactic Axions*

14. IEEE Nuclear Science Symposium, 31/10–7/11/2019 San Diego (USA)
    Title: *Particle detection through the quantum counter concept in YAG:Er^{3+}*

15. IFD 2015 (INFN workshop on future detectors), 16-18/12/2015, Torino
    Title: *New detectors for axions*

16. FISMAT 2015, Congresso nazionale di fisica della materia condensata 28/09–03/10/2015, Palermo
    Title: *Quantum vacuum experiments in 3D cavities*

17. SPIE Photonics Europe 2014, 14-17/04/2014, Bruxelles
    Title: *Laser-induced microwave generation with nonlinear optical crystals*

18. 99° congresso SIF, 26-30/09/2014, Pisa
    Title: *A laser-excited semiconductor wall*

19. Casimir Physics Workshop, 11-16/03/2012, Leiden
    Title: *MIR: an experiment to detect the Dynamical Casimir Effect*

20. Workshop "New trends in the physics of the quantum vacuum: from condensed matter, to gravitation and cosmology, 26-30/06/2011, Trento
    Title: *MIR: an experiment to detect the Dynamical Casimir Effect*

21. International workshop on the dynamical Casimir effect, 6-8 Giugno 2011, Padova
    Title: *The MIR experiment: status and perspectives*

Publications

D. Alesini, C. Braggio, G. Carugno, N. Crescini, D. D'Agostino, D. Di Gioacchino, R. Di Vora, P. Falferi, S. Gallo, U. Gambardella, C. Gatti, G. Iannone, G. Lamanna, C. Ligi, A. Lombardi, R. Mezzena, A. Ortolan, R. Pengo, N. Pompeo, A. Rettaroli, G. Ruoso, E. Silva, C. C. Speake, L. Taffarello, and S. Tocci
[39] **Galactic axions search with a superconducting resonant cavity**
Phys. Rev D **99** *101101 (2019)*

S. Vasiukov, F. Chiossi, C. Braggio, G. Carugno, F. Moretti, E. Bourret, and S. Derenzo
[38] **GaAs as a Bright Cryogenic Scintillator for the Detection of Low-Energy Electron Recoils From MeV/c^2 Dark Matter**
IEEE Trans. Nucl. Sci. **66** *2333 (2019)*

D. Di Gioacchino, C. Gatti, David Alesini, C. Ligi, S. Tocci, A. Rettaroli, G. Carugno, N. Crescini , G. Ruoso, C. Braggio, P. Falferi, C. S. Gallo, U. Gambardella, G. Iannone, G. Lamanna, A. Lombardi, R. Mezzena, A. Ortolan, R. Pengo, E. Silva, and N. Pompeo
[37] **Microwave Losses in a DC Magnetic Field in Superconducting Cavities for Axion Studies**
IEEE Trans. Appl. Sup. **29** *3500605 (2019)*

N. Crescini, D. Alesini, C. Braggio, G. Carugno, D. Di Gioacchino, C. S. Gallo, U. Gambardella, C. Gatti, G. Iannone, G. Lamanna, C. Ligi, A. Lombardi, A. Ortolan, S. Pagano, R. Pengo, G. Ruoso , C. C. Speake, L. Taffarello
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