

Publications, seminars and talks of Marco Vignati

Updated September 10, 2015

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1 Books (1 item)

- [L1] M. Vignati, “Model of the Response Function of CUORE Bolometers,” Springer Verlag, 1st Edition, 2011, ISBN 978-94-007-1231-7, doi:10.1007/978-94-007-1232-4.

2 Articles (40 items)

- [A40] J. W. Beeman *et al.* [LUCIFER Collaboration], “Enriched ^{82}Se for the LUCIFER experiment,” arXiv:1508.01709.
- [A39] L. Cardani *et al.*, “Energy resolution and efficiency of phonon-mediated kinetic inductance detectors for light detection,” Appl. Phys. Lett. **107** (2015) 093508, doi:10.1063/1.4929977 - arXiv:1505.04666.
- [A38] K. Alfonso *et al.* [CUORE Collaboration], “Search for Neutrinoless Double-Beta Decay of ^{130}Te with CUORE-0,” Phys. Rev. Lett. **115** (2015) 102502, doi:10.1103/PhysRevLett.115.102502 - arXiv:1504.02454.
- [A37] * E. S. Battistelli *et al.*, “CALDER - Neutrinoless double-beta decay identification in TeO_2 bolometers with kinetic inductance detectors,” Eur. Phys. J. C **75** (2015) 353, doi:10.1140/epjc/s10052-015-3575-6 - arXiv:1505.01318.
- [A36] F. Bellini *et al.*, “Measurements and optimization of the light yield of a TeO_2 crystal,” JINST **9** (2014) P10014, doi:10.1088/1748-0221/9/10/P10014 - arXiv:1406.0713.

- [A35] * N. Casali, M. Vignati *et al.*, “TeO₂ bolometers with Cherenkov signal tagging: towards next-generation neutrinoless double beta decay experiments,” *Eur. Phys. J. C* **75** (2015) 12, doi:10.1140/epjc/s10052-014-3225-4 - arXiv:1403.5528.
- [A34] D. R. Artusa *et al.* [CUORE Collaboration], “Searching for neutrinoless double-beta decay of ¹³⁰Te with CUORE,” *Adv. High Energy Phys.* **2015** (2015) 879871, doi:10.1155/2015/879871 - arXiv:1402.6072.
- [A33] D. R. Artusa *et al.* [CUORE Collaboration], “Exploring the Neutrinoless Double Beta Decay in the Inverted Neutrino Hierarchy with Bolometric Detectors,” *Eur. Phys. J. C* **74** (2014) 3096, doi:10.1140/epjc/s10052-014-3096-8 - arXiv:1404.4469.
- [A32] C. P. Aguirre *et al.* [CUORE Collaboration], “Initial performance of the CUORE-0 experiment,” *Eur. Phys. J. C* **74** (2014) 2956, doi:10.1140/epjc/s10052-014-2956-6 - arXiv:1402.0922.
- [A31] L. Cardani *et al.*, “First bolometric measurement of the two neutrino double beta decay of ¹⁰⁰Mo with a ZnMoO₄ crystals array,” *J.Phys.* **G41** (2014) 075204, doi:10.1088/0954-3899/41/7/075204 - arXiv:1312.4680.
- [A30] N. Casali *et al.*, “Discovery of the ¹⁵¹Eu α decay,” *J.Phys.* **G41** (2014) 075101, doi:10.1088/0954-3899/41/7/075101 - arXiv:1311.2834.
- [A29] J.W. Beeman *et al.*, “Current Status and Future Perspectives of the LUCIFER Experiment,” *AdHEP* **2013** 237973, doi:10.1016/j.nuclphysbps.2012.09.132.
- [A28] L. Cardani *et al.*, “Development of a Li₂MoO₄ scintillating bolometer for low background physics,” *JINST* **8** (2013) P10002, doi:10.1088/1748-0221/8/10/P10002 - arXiv:1307.0134.
- [A27] J. W. Beeman *et al.*, “Characterization of bolometric Light Detectors for rare event searches,” *JINST* **8** (2013) P07021, doi:10.1088/1748-0221/8/07/P07021 - arXiv:1304.6289.
- [A26] J. W. Beeman *et al.*, “Performances of a large mass ZnSe bolometer to search for rare events,” *JINST* **8** (2013) P05021, doi:10.1088/1748-0221/8/05/P05021 - arXiv:1303.4080.
- [A25] F. Alessandria, *et al.* [CUORE Collaboration], “Search for 14.4 keV solar axions from M1 transition of Fe-57 with CUORE crystals,” *JCAP* **5** (2013) 7, doi:10.1088/1475-7516/2013/05/007 - arXiv:1209.2800.
- [A24] J. W. Beeman *et al.*, “New experimental limits on the α decays of lead isotopes,” *Eur. Phys. J. A* **49** (2013) 50, doi:10.1140/epja/i2013-13050-7 - arXiv:1212.2422.
- [A23] F. Alessandria *et al.* [CUORE Collaboration], “Validation of techniques to mitigate copper surface contamination in CUORE,” *Astropart. Phys.* **45** (2013) 13, doi:10.1016/j.astropartphys.2013.02.005 - arXiv:1210.1107.
- [A22] F. Bellini, *et al.*, “Measurements of the Cerenkov light emitted by a TeO₂ crystal,” *JINST* **7** (2012) P11014, doi:10.1088/1748-0221/7/11/P11014 - arXiv:1209.6298.
- [A21] S. Ciuchi, L. Maiani, A. D. Polosa, V. Riquer, G. Ruocco and M. Vignati, “Low Energy Neutron Production by Inverse-beta decay in Metallic Hydride Surfaces,” *Eur. Phys. J. C* **72** (2012) 2193, doi:10.1140/epjc/s10052-012-2193-9 - arXiv:1209.6501.
- [A20] F. Alessandria, *et al.* [CUORE Collaboration], “The low energy spectrum of TeO₂ bolometers: results and dark matter perspectives for the CUORE-0 and CUORE experiments,” *JCAP* **1** (2013) 038, doi:10.1088/1475-7516/2013/01/038 - arXiv:1209.2519.

- [A19] J. W. Beeman, *et al.*, “Performances of a large mass ZnMoO_4 scintillating bolometer for a next generation neutrinoless double beta decay experiment,” *Eur. Phys. J. C* **72** (2012) 2142, doi:10.1140/epjc/s10052-012-2142-7 - arXiv:1207.0433.
- [A18] * C. Mancini-Terracciano and M. Vignati, “Noise correlation and decorrelation in arrays of bolometric detectors,” *JINST* **7** (2012) P06013, doi:10.1088/1748-0221/7/06/P06013 - arXiv:1203.1782.
- [A17] J. W. Beeman, *et al.*, “ ZnMoO_4 : a promising bolometer for neutrinoless double beta decay searches,” *Astropart. Phys.* **35** (2012) 813, doi:10.1016/j.astropartphys.2012.02.013 - arXiv:1202.0238.
- [A16] F. Alessandria, *et al.*, “CUORE crystal validation runs: results on radioactive contamination and extrapolation to CUORE background,” *Astropart. Phys.* **35** (2012) 839, doi:10.1016/j.astropartphys.2012.02.008 - arXiv:1108.4757.
- [A15] E. Andreotti, *et al.* [CUORICINO Collaboration], “Double-beta decay of ^{130}Te to the first 0^+ excited state of ^{130}Xe with CUORICINO,” *Phys. Rev. C* **85** (2012) 045503, doi:10.1103/PhysRevC.85.045503 - arXiv:1108.4313.
- [A14] * J. W. Beeman *et al.*, “Discrimination of α and β/γ interactions in a TeO_2 bolometer,” *Astropart. Phys.* **35** (2012) 558 doi:10.1016/j.astropartphys.2011.12.004 - arXiv:1106.6286.
- [A13] * G. Piperno, S. Pirro, M. Vignati, “Optimizing the energy threshold of light detectors coupled to luminescent bolometers,” *JINST* **6** (2011) P10005, doi:10.1088/1748-0221/6/10/P10005 - arXiv:1107.5679.
- [A12] * M. Carrettoni, M. Vignati, “Signal and noise simulation of CUORE bolometric detectors,” *JINST* **6** (2011) P08007, doi:10.1088/1748-0221/6/08/P08007 - arXiv:1106.3902.
- [A11] E. Andreotti *et al.* [CUORICINO Collaboration], “ ^{130}Te Neutrinoless Double-Beta Decay with CUORICINO,” *Astropart. Phys.* **34** (2011) 822, doi:10.1016/j.astropartphys.2011.02.002 - arXiv:1012.3266.
- [A10] * M. Lusignoli and M. Vignati, “Relic Antineutrino Capture on ^{163}Ho decaying Nuclei,” *Phys. Lett. B* **697** (2011) 11, doi:10.1016/j.physletb.2011.01.047 - arXiv:1012.0760.
- [A9] S. Di Domizio, F. Orio and M. Vignati*, “Lowering the energy threshold of large-mass bolometric detectors,” *JINST* **6** (2011) P02007, doi:10.1088/1748-0221/6/02/P02007 - arXiv:1012.1263.
- [A8] E. Andreotti *et al.* [CUORICINO Collaboration], “Search for β^+/EC double beta decay of ^{120}Te ,” *Astropart. Phys.* **34** (2011) 643, doi:10.1016/j.astropartphys.2010.12.011 - arXiv:1011.4811.
- [A7] F. Bellini *et al.*, “Response of a TeO_2 bolometer to α particles,” *JINST* **5** (2010) P12005, doi:10.1088/1748-0221/5/12/P12005 - arXiv:1010.2618.
- [A6] * M. Vignati, “Model of the response function of large mass bolometric detectors,” *J. Appl. Phys.* **108** (2010) 084903, doi:10.1063/1.3498808 - arXiv:1006.4043.
- [A5] C. Arnaboldi *et al.*, “Production of high purity TeO_2 single crystals for the study of neutrinoless double beta decay,” *Journal of Crystal Growth*, **312** (2010) 20, doi:10.1016/j.jcrysgro.2010.06.034 - arXiv:1005.3686.
- [A4] E. Andreotti *et al.* [CUORICINO Collaboration], “Muon-induced backgrounds in the CUORICINO experiment,” *Astropart. Phys.* **34** (2010) 18, doi:10.1016/j.astropartphys.2010.04.004 - arXiv:0912.3779.

- [A3] F. Bellini *et al.*, “Monte Carlo evaluation of the external gamma, neutron and muon induced background sources in the CUORE experiment,” *Astropart. Phys.* **33** (2010) 169, doi:10.1016/j.astropartphys.2010.01.004 - arXiv:0912.0452.
- [A2] C. Arnaboldi *et al.* [CUORICINO Collaboration], “Results from a search for the $0\nu\beta\beta$ -decay of ^{130}Te ,” *Phys. Rev. C* **78** (2008) 035502, doi:10.1103/PhysRevC.78.035502 - arXiv:0802.3439.
- [A1] I. Dafinei, C. Dujardin, E. Longo and M. Vignati, “Low temperature photoluminescence of pure and doped paratellurite (TeO_2) crystals,” *Phys. Stat. Sol. (a)* **204** (2006) 5, doi:10.1002/pssa.200622458.

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3 Conference proceedings (22 items)

- [CP22] L. Cardani *et al.*, “CALDER: Cryogenic light detectors for background-free searches,” *AIP Conf. Proc.* **1672** (2015) 130001.
- [CP21] M. Sisti *et al.* [CUORE Collaboration], “Status of the CUORE and results from the CUORE-0 neutrinoless double beta decay experiments,” arXiv:1502.03653.
- [CP20] N. Moggi *et al.* [CUORE Collaboration], “Neutrinoless double-beta decay search with CUORE and CUORE-0 experiments,” *EPJ Web Conf.* **90** (2015) 03004, doi:10.1051/epjconf/20159003004.
- [CP19] D. R. Artusa *et al.* [CUORE Collaboration], “CUORE-0 results and prospects for the CUORE experiment,” *AIP Conf. Proc.* **1666** (2015) 170001, doi:10.1063/1.4915591 - arXiv:1502.02576.
- [CP18] A. Cruciani *et al.*, “Kinetic Inductance Detectors as light detectors for neutrino and dark matter searches,” *PoS TIPP 2014* (2014) 366.
- [CP17] A. Giachero *et al.* [CUORE collaboration], “The CUORE and CUORE-0 Experiments at Gran Sasso,” *EPJ Web Conf.* **95** (2015) 04024, doi:10.1051/epjconf/20159504024 - arXiv:1410.7481.
- [CP16] M. Vignati *et al.* [CUORE Collaboration], “First Data from CUORE-0,” *Phys. Procedia* **61** (2015) 289, doi:10.1016/j.phpro.2014.12.047 [C8].
- [CP15] D. R. Artusa *et al.* [CUORE collaboration], “CUORE and beyond: bolometric techniques to explore inverted neutrino mass hierarchy,” *Phys. Procedia* **61** (2015) 241, doi:10.1016/j.phpro.2014.12.039 - arXiv:1407.1094.
- [CP14] C. P. Aguirre *et al.* [CUORE Collaboration], “Dark Matter Search with CUORE-0 and CUORE,” *Phys. Procedia* **61** (2015) 13, doi:10.1016/j.phpro.2014.12.005.
- [CP13] M. Vignati, “Present and future strategies for Neutrinoless Double Beta decay searches,” *EPJ Web Conf.* **70** (2014) 00044, doi:10.1051/epjconf/20147000044 [S2].
- [CP12] S. Di Domizio *et al.*, “Cryogenic Wide-Area Light Detectors for Neutrino and Dark Matter Searches,” *J. Low Temp. Phys.* **176** (2014) 917, doi:10.1007/s10909-013-1076-2.
- [CP11] N. Casali *et al.*, “Monte Carlo simulation of the Čerenkov radiation emitted by TeO_2 crystal when crossed by cosmic muons,” *NIM A* **732** (2013) 338, doi:10.1016/j.nima.2013.07.024.
- [CP10] N. Casali *et al.*, “Particle discrimination in TeO_2 bolometers,” *Nuovo Cim. C.* **36** (2013) 57, doi:10.1393/ncc/i2013-11407-8.

- [CP9] M. Vignati for the CUORE Collaboration, “Direct Dark Matter and Axion Detection with CUORE”, AIP Conf. Proc. **1441** (2012) 52, doi:10.1063/1.3700602 [C6].
- [CP8] M. Vignati, “LUCIFER: Scintillating bolometers for the search of Neutrinoless Double Beta Decay”, Nucl. Phys. B. (Proc. Suppl.) **229-232** (2012) 495, doi:10.1016/j.nuclphysbps.2012.09.132 [P3].
- [CP7] M. Vignati, “ ^{163}Ho as a target for cosmic antineutrinos”, J. Phys. Conf. Ser. **375** (2012) 042006, doi:10.1088/1742-6596/375/1/042006 [C7].
- [CP6] M. Vignati for the CUORE Collaboration, “Feasibility Study of Dark Matter Searches with the CUORE experiment”, PoS **IDM2010** (2010) 019, arXiv:1102.3564 [C5].
- [CP5] M. Vignati, “An algorithm to linearize the response function of bolometric detectors”, Nuovo Cim. **C 33** (2010) 293, doi:10.1393/ncc/i2011-10794-0 [P2].
- [CP4] M. Pedretti *et al.*, “Cuore experiment: The search for neutrinoless double beta decay”, Int. J. Mod. Phys. A **23** (2008) 3395, doi:10.1142/S0217751X08042183.
- [CP3] M. Pedretti *et al.*, “An active-shield method for the reduction of surface contamination in CUORE”, AIP Conf. Proc. **897** (2007) 59, doi:10.1063/1.2722069.
- [CP2] F. Bellini *et al.*, “Passive shielding in CUORE”, AIP Conf. Proc. **897** (2007) 117, doi:10.1063/1.2722078.
- [CP1] P. Gorla *et al.*, “New CUORICINO results on the way to CUORE”, Phys. Scripta T **127** (2006) 49, doi:10.1088/0031-8949/2006/T127/018.

4 Seminars and invited talks (12 items)

- [S12] M. Vignati, “Superconducting light detectors for neutrino and dark matter searches”, Giornate di studio sul piano triennale dell’INFN, 8 November 2014, Trento (Italy), *invited talk*.
- [S11] M. Vignati, “Superconducting light detectors for neutrino and dark matter searches”, What Next INFN, LNGS (Italy), 15 October 2014, *invited talk*.
- [S10] M. Vignati, “*very* Cryogenic Double Beta Decay Experiments”, Munich Institute for Astro and Particle Physics (MIAPP) (Germany), 17 July 2014, *seminar*.
- [S9] M. Vignati, “CALDER: Cryogenic light detectors for neutrino and dark matter searches”, Yale University (New Haven, USA), 29 May 2014, *seminar*.
- [S8] M. Vignati, “Searching for Majorana Neutrinos with Cryogenic Detectors”, European Conference 2013 Marie Curie Actions: On the last lap to Horizon 2020, 27 November 2013, Florence (Italy), *invited talk*.
- [S7] M. Vignati, “Recent results on direct Dark Matter Searches”, 15 November 2013, INFN Sezione di Roma, Roma (Italy), *seminar*.
- [S6] M. Vignati, “LUCIFER”, International Symposium on Neutrino Physics and Beyond, 09/2012, Shenzhen (China), *invited talk*.
- [S5] M. Vignati, “LUCIFER, una ricerca senza fondo del doppio decadimento beta senza emissione di neutrini”, XCVIII Congresso della Società italiana di Fisica, 09/2012, Napoli (Italy), *invited talk*.

- [S4] M. Vignati, “Luminescent TeO₂ bolometers”, Isotta kick off meeting 2012, Orsay (France), 06/2012, *invited talk*.
- [S3] M. Vignati, “Effect Cherenkov dans le TeO₂”, GDR Neutrino 2012, Paris (France), 06/2012, *invited talk*.
- [S2] M. Vignati, “Present and future strategies for Neutrinoless Double Beta Decay”, International Conference on New Frontiers in Physics, 06/2012, Creete (Greece), *invited talk* [CP13].
- [S1] M. Vignati, “Materia oscura e neutrini dopo TAUP 2011”, 3 October 2011, Sapienza Università di Roma, Roma (Italy), *seminar*.

5 Contributed talks at conferences (10 items)

- [C10] M. Vignati for the CALDER collaboration, “CALDER, Neutrinoless double-beta decay identification in TeO₂ bolometers with kinetic inductance detectors,” Topics in Astroparticle and Underground Physics (TAUP2015), 09/2015, Torino (Italy).
- [C9] M. Vignati for the CALDER collaboration, “CALDER: Cryogenic light detectors for neutrino and dark matter searches”, 25 May 2015, La Biodola, Isola d’Elba (Italy).
- [C8] M. Vignati for the CUORE collaboration, “First data from CUORE-0,” Topics in Astroparticle and Underground Physics (TAUP2013), 09/2013, Asilomar (California) [CP16].
- [C7] M. Vignati, “¹⁶³Ho as a target for cosmic antineutrinos”, 12th International Conference on Topics in Astroparticle and Underground Physics (TAUP2011), 09/2011, Munich (Germany), *talk* [CP7].
- [C6] M. Vignati for the CUORE Collaboration, “Direct Dark Matter and Axion Detection with CUORE”, 19th Particles and Nuclei International Conference (PANIC11), 07/2011, MIT (USA) [CP9].
- [C5] M. Vignati for the CUORE Collaboration, “Feasibility Study of Dark Matter Searches with the CUORE experiment”, 8th International Workshop on Identification of Dark Matter, 07/2010, Montpellier (France) [CP6].
- [C4] M. Vignati, “Linearizzazione della funzione di risposta dei bolometri dell’ esperimento CUORE”, XCV Congresso della Società italiana di Fisica, 09/2009, Bari (Italy).
- [C3] M. Vignati for the CUORICINO and CUORE Collaborations, “Neutrinoless Double Beta Decay search with CUORICINO and CUORE experiments”, 7th SNOLAB Workshop on Science and Experiments for SNOLAB, 10/2008, Sudbury (Canada).
- [C2] M. Vignati for the CUORICINO and CUORE Collaborations, “Neutrinoless Double Beta Decay search with CUORICINO and CUORE experiments”, Rencontres de Moriond EW 2008, 03/2008, La Thuile (France).
- [C1] M. Vignati for the CUORICINO and CUORE Collaborations, “Neutrinoless Double Beta Decay search with CUORICINO and CUORE experiments”, 6th International Conference on Nuclear and Particle Physics, 09/2007, Luxor (Egypt).

6 Posters at conferences (3 items)

- [P3] M. Vignati “LUCIFER: Scintillating bolometers for the search of Neutrinoless Double Beta Decay”, Neutrino 2010, 06/2010, Athens (Greece) [CP8].
- [P2] M. Vignati, “An algorithm to linearize the response function of bolometric detectors”, IFAE2010 Incontri di Fisica delle Alte Energie, 04/2010, Roma (Italy), *poster* [CP5].
- [P1] M. Vignati for the CUORICINO collaboration, “CUORICINO: bolometers array for $0\nu\text{DBD}$ search” WE-Heraeus-Seminar on Massive Neutrinos , 06/2006, Physikzentrum Bad Honnef (Germany), *poster*.

7 Outreach (4 items)

- [O4] Seminar on Dark Matter to high school students, Liceo Taletè in Rome, 2015.
- [O3] Seminar on Dark Matter at the Libreria Assaggi in Rome, 2015.
- [O2] Seminar on Dark Matter to high school students, Sapienza University of Rome, 2014.
- [O1] Article on the Italian magazine “DA” 39 n. 1 2014 “Alla ricerca delle origini dell’universo”.