

GIUSEPPE ROMEOPUBBLICAZIONI SCIENTIFICHE E REPORT TECNICI

Articoli su Riviste Internazionali [AR] (con referaggio)**•AR[54] - The ASTRI Mini-Array of Cherenkov telescopes at the Observatorio del Teide**

S.Scuderi, A.Giuliani, G.Pareschi, G.Tosti, O.Catalano, E.Amato, L.A. Antonelli, J.Becerra Gonzàles, G.Bellassai, C.Bigongiari, B.Biondo, M.Böttcher, G.Bonanno, G.Bonnoli, P.Bruno, A.Bulgarelli, R.Canestrari, M.Copalbi, P.Caraveo, M.Cardillo, V.Confortie, G.Contino, M.Corpora, A.Costa, G.Cusumano, A.D'Aì, E.de Gouvei Dal Pino, R.Della Cecca, E.Escribano Rodriguez, D.Falceta-Goncalves, C.Fermino, M.Fiori, V.Fioretti, M.Fiorini, S.Gallozzi, C.Gargano, S.Garozzo, S.Germani, A.Ghedina, F.Gianotti, S.Giarrusso, R.Gimenes, V.Giordano, A.Grillo, C.Grivel Gelly, D.Impiombato, F.Incardona, S.Incorvaia, S.Iovenitti, A.La Barbera, La Palombara, V.La Parola, A.Lamastra, L.Lessio, G.Leto, F.LoGerfo, M.Lodi, S.Lombardi, F.Longo, F.Lucarelli, M.C.Maccarone, D.Marano, E.Martinetti, S.Mereghetti, A.Micciché, R.Millul, T.Mineo, D.Mollica, G.Morlino, A.Morselli, G.Naletto, G.Nicotra, A.Pagliaro, N.Parmiggiani, G.Piano, F.Pintore, E.Poretti, B.Olmi, G.Rodeghiero , G.Rodriguez Fernandez, P.Romano, **G.Romeo**, F.Russo, P.Sangiorgi, F.G.Saturni, J.H.Schwarz, E.Sciacca, G.Sironi, G.Sottile, A.Stamerra, G.Tagliaferri, V.Testa, G.Umana, M.Uslenghi, S.Vercellone, L.Zampieri, R.Zanmar Sanchez
- *Journal of High Energy Astrophysics*, 35(2022)52–68, doi.org/10.1016/j.jheap.2022.05.001

•AR[53] - ASTRI Mini-Array Core Science at the Observatorio del Teide

S. Vercellone, C. Bigongiari, ..., S. Scuderi, A. Tutone, ..., G. Naletto, J. C. Rodríguez Ramírez, **G. Romeo**, ..., M. V. del Valle, M. Vásquez Acosta, ..., P.A. Caraveo, G. Pareschi.
- *Journal of High Energy Astrophysics*, Volume 35, August 2022, Pages 1-42, DOI: 10.1016/j.jheap.2022.05.005

•AR[52] - Three years of muography at Mount Etna: results and perspectives

G. Gallo, D. Lo Presti, D.L. Bonanno, G. Bonanno, C. Ferlito, P. La Rocca, S. Reito, F. Riggia, and **G. Romeo**
- *Journal of Instrumentation*, 2022 JINST 17 C02003, doi.org/10.1088/1748-0221/17/02/C02003

•AR[51] - Focal plane detector and front-end electronics of the stellar intensity interferometry instrument for the ASTRI Mini-Array telescopes

G. Bonanno, **G. Romeo**, L. Paoletti, L. Zampieri, G. Naletto, P. Bruno, A. Grillo, G. Occhipinti, M.C. Timpanaro, G. Pareschi, S. Scuderi, G. Tosti
- *SPIE 2022, Montreal, Canada – in press*

•AR[50] - A Stellar Intensity Interferometry Instrument for the ASTRI Mini-Array telescopes

Luca Zampieri, Giovanni Bonanno, Pietro Bruno, Carmelo Gargano, Luigi Lessio, Giampiero Naletto, Lorenzo Paoletti, Gabriele Rodeghiero, **Giuseppe Romeo**, Andrea Bulgarelli, Vito Conforti, Michele Fiori, Stefano Gallozzi, Fulvio Gianotti, Alessandro Grillo, Marco Landoni, Saverio Lombardi, Fabrizio Lucarelli, Aldo Morselli, Giovanni Occhipinti, Nicolo Parmiggiani, Claudio Pernechele, Gonzalo Rodriguez Fernandez, Federico Russo, Giorgia Sironi, Maria Cristina Timpanaro, Valentina Giordano, Giovanni Pareschi, Salvatore Scuderi, and Gino Tosti
- *SPIE 2022, Montreal, Canada – in press*

• AR[49] - Galactic Observatory Science with the ASTRI Mini-Array at the Observatorio del Teide

A. D'Aia, E. Amato, A. Burtovoi, A. A. Compagnino, M. Fiori, A. Giuliani, N. La Palombara, A. Paizis, ..., **G. Romeo**, ... and others
- *Preprint submitted to Elsevier; 2022*

• AR[48] - Probing Dark Matter and Fundamental Physics with the Cherenkov Telescope Array

F. Iocco, M. Meyer, M. Doro, W. Hofmann, J. Pérez-Romero, ..., **G. Romeo**, ..., on behalf of the CTA consortium.
- *arXiv: 2106.03582v2 [astro-ph.HE], 9 Jun 2021, in press*

• AR[47] - Sensitivity of the Cherenkov Telescope Array for probing cosmology and fundamental physics with gamma-ray propagation

H. Abdalla, H. Abe, F. Acero, A. Acharyya, R. Adam, I. Agudo, ..., **G. Romeo**, ..., M. Živec.
- *Journal of Cosmology and Astroparticle Physics, (2021)048, ArXiv ePrint: 2010.01349*

• AR[46] - Sensitivity of the Cherenkov Telescope Array to a dark matter signal from the Galactic centre

A. Acharyya, R. Adam, C. Adams, I. Agudo, ..., **G. Romeo**, ..., M. Živec.
- *Journal of Cosmology and Astroparticle Physics, (2021)048, ArXiv ePrint: 2007.16129*

• AR[45] - Origin and role of relativistic cosmic particles

F. Acero, I. Agudo, R. Adam, A. Araudo, R. Alves Batista, E. Amato, ..., **G. Romeo**, ..., on behalf of the CTA consortium.
- *arXiv: 2106.03599 [astro-ph.HE], 7 Jun 2021, in press*

• AR[44] - Southern African Large Telescope Spectroscopy of BL Lacs for the CTA project

E. Kasai, P. Goldoni, M. Backes, G. Cotter, S. Pita, C. Boisson, D. A. Williams, F. D'Ammando, E. Lindfors, U. Barres de Almeida, W. Max-Moerbeck, V. Navarro-Aranguiz, J. Becerra-Gonzalez, O. Hervet, J.-P. Lenain, H. Sole, S. Wagner, ..., **G. Romeo**, ..., on behalf of the CTA Collaboration
- *37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021, doi.org/10.22323/1.395.0881*

• AR[43] - Performance of the Cherenkov Telescope Array in the presence of clouds

Mario Pecimotika, Katarzyna Adamczyk, Dijana Dominis Prester, Orel Gueta, Dario Hrupec, Germot Maier, Saša Micanovic, Lovro Pavletic, Julian Sitarek, Dorota Sobczynska, Michał Szanecki, ..., **Giuseppe Romeo**, ..., for the Cherenkov Telescope Array Consortium
- *37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021 doi.org/10.22323/1.395.0773*

• AR[42] - Monte Carlo Simulations and Validation of NectarCAM, a Medium Sized Telescope Camera for CTA

Thomas P. Armstrong, Heide Costantini, Jean-François Glicenstein, Jean-Philippe Lenain, Ullrich Schwanked, Thomas Tavernier, ..., **Giuseppe Romeo** on behalf of the CTA Collaboration
- *37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021 doi.org/10.22323/1.395.0747*

• AR[41] - Application of pattern spectra and convolutional neural networks to the analysis of simulated Cherenkov Telescope Array data

J. Aschersleben, R. F. Peletier, M. Vecchia, M. H. F. Wilkinsonb, ..., **G. Romeo** on behalf of the CTA Consortium
- *37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021 doi.org/10.22323/1.395.0697*

• AR[40] - Searching for very-high-energy electromagnetic counterparts to gravitational-wave events with the Cherenkov Telescope Array

Barbara Patricelli, Alessandro Carosi, Lara Nava, Monica Seglar-Arroyo, Fabian Schüssler, Antonio Stamerra, Andrea Adelfio, Halim Ashkar, Andrea Bulgarelli, Tristano Di Girolamo, Ambra Di Piano, Thomas Gasparetto, Jarred Green, Francesco Longo, Ivan Agudo, Alessio Berti, Elisabetta Bissaldi, Giancarlo Cellà, ..., **Giuseppe Romeo** on behalf of the CTA Consortium

-37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021 doi.org/10.22323/1.395.0998

• AR[39] - The Cherenkov Telescope Array transient and multi-messenger program

Alessandro Carosi, Alicia López-Oramas, Francesco Longo, ..., **Giuseppe Romeo** on behalf of the CTA Collaboration

-37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021 doi.org/10.48550/arXiv.2108.04317

• AR[38] - Prospects for Galactic transient sources detection with the Cherenkov Telescope Array

Alicia López-Oramas, A. Bulgarelli, S. Chaty, M. Chernyakova, R. Gnatyk, B. Hnatyk, D. Kantzias, S. Markoff, S. McKeague, S. Mereghetti, E. Mestre, A. di Piano, P. Romano, I. Sadeh, O. Sergienko, L. Sidoli, A. Spolon, E. de Ona Wilhelmi, G. Piano, L. Zampieri, ..., **G. Romeo** on behalf of the CTA Consortium

-37th International Cosmic Ray Conference (ICRC 2021), July 12th – 23rd, 2021 doi.org/10.22323/1.395.0784

• AR[37] - Muography as a new complementary tool in monitoring volcanic hazard: implications for early warning systems

Giovanni Leone, Hiroyuki K. M. Tanaka, Marko Holma, Pasi Kuusiniemi, Dezső Varga, László Oláh, Domenico Lo Presti, Giuseppe Gallo, Carmelo Monaco, Carmelo Ferlito, Giovanni Bonanno, **Giuseppe Romeo**, Lee Thompson, Kenji Sumiya, Sara Steigerwald and Jari Joutsenvaara

-Proc. R. Soc. A 477:20210320, doi.org/10.1098/rspa.2021.0320

• AR[36] - Probing extreme environments with the Cherenkov Telescope Array

C. Boisson, A.M. Brown, A. Burtoivoi, M. Cerruti, M. Chernyakova, T. Hassan, J.-P. Lenain, M. Manganaro, P. Romano, H. Sol, F. Tavecchio, S. Vercellone, L. Zampieri, R. Zanin, ..., **G. Romeo** on behalf of the CTA consortium.

-arXiv:2106.05971v1, doi.org/10.48550/arXiv.2106.05971

• AR[35] - Multiparametric approach to the assessment of muon tomographic results for the inspection of a full-scale container

F. Riggi, M. Bandieramonte, U. Becciani, D. L. Bonanno, G. Bonanno, P. G. Fallica, G. Gallo, A. Grillo, P. La Rocca, D. Lo Presti, C. Petta, C. Pinto, S. Riggi, **G. Romeo**, G. V. Russo, G. Santagati, G. Valvo

-The European Physical Journal Plus, (2021) 136:139, doi.org/10.1140/epjp/s13360-020-00970-z

• AR[34] - Multi-messenger and transient astrophysics with the Cherenkov Telescope Array

Ž. Bošnjak, A. M. Brown, A. Carosi, M. Chernyakova, P. Cristofari, ..., **G. Romeo**, ... on behalf of the CTA Consortium

-arXiv:2106.03621v1 [astro-ph.HE], doi.org/10.48550/arXiv.2106.03621

• AR[33] - The innovative Cherenkov camera based on SiPM sensors of the ASTRI-Horn telescope: from the T/M and electrical design to the full assembly and testing in a harsh environment

Rodolfo Canestrari, Carmelo Gargano, Giuseppe Sottile, Benedetto Biondo, Giovanni Bonanno, Pietro Bruno, Milvia Capalbi, Osvaldo Catalano, Vito Conforti, Salvatore Garozzo, Fulvio Gianotti, Salvatore Giarrusso, Enrico Giro, Alessandro Grillo, Domenico Impiombato, Maria Concetta Maccarone, Davide Marano, Teresa Mineo, Giovanni Pareschi, **Giuseppe Romeo**, Francesco Russo, Pierluca Sangiorgi, Salvatore Scuderi, Alberto Segreto, Giorgia Sironi

-Proc. SPIE 11114, Hard X-Ray, Gamma-Ray, and Neutron Detector Physics XXI, 111140A (2019); doi:10.1117/12.2528153

• AR[32] - Characterization method to achieve simultaneous absolute PDE measurements of all pixels of an ASTRI Mini-Array camera tile

G. Bonanno, **G. Romeo**, G. Occhipinti, M.C. Timpanaro, A. Grillo

-Nuclear Inst. and Methods in Physics Research, A, Volume 980, doi.org/10.1016/j.nima.2020.164489

• AR[31] – Muographic monitoring of the volcano-tectonic evolution of Mount Etna

D. Lo Presti, F. Riggi, C. Ferlito, D. L. Bonanno, G. Bonanno, G. Gallo, P. La Rocca, S. Reito, **G. Romeo**
– *Scientific Reports* | (2020) 10:11351 | doi.org/10.1038/s41598-020-68435-y

• AR[30] – First detection of the Crab Nebula at TeV energies with a Cherenkov telescope in a dual-mirror Schwarzschild-Couder configuration: the ASTRI-Hotn telescope

S Lombardi, O Catalano, S Scuderi, LA Antonelli, G Pareschi, E Antolini, L Arrabito, G Bellassai, K Bernlöhr, C Bigongiari, B Biondo, G Bonanno, G Bonnoli, GM Böttcher, J Bregeon, P Bruno, R Canestrari, M Capalbi, P Caraveo, P Conconi, V Conforti, G Contino, G Cusumano, EM de Gouveia Dal Pino, A Distefano, G Farisato, C Fermino, M Fiorini, A Frigo, S Gallozzi, C Gargano, S Garozzo, F Gianotti, S Giarrusso, R Gimenes, E Giro, A Grillo, D Impiombato, S Incorvaia, N La Palombara, V La Parola, G La Rosa, G Leto, F Lucarelli, MC Maccarone, D Marano, E Martinetti, A Miccichè, R Millul, T Mineo, G Nicotra, G Occhipinti, I Pagano, M Perri, **G. Romeo**, F Russo, B Sacco, P Sangiorgi, FG Saturni, A Segreto, G Sironi, G Sottile, A Stamerra, L Stringhetti, G Tagliaferri, M Tavani, V Testa, MC Timpanaro, G Toso, G Tosti, M Trifoglio, G Umana, S Vercellone, R Zanmar Sanchez, C Arcaro, A Bulgarelli, M Cardillo, E Cascone, A Costa, A D'Ai, F D'Ammando, M Del Santo, V Fioretti, A Lamastra, S Mereghetti, F Pintore, G Rodeghiero, P Romano, J Schwarz, E Sciacca, FR Vitello, A Wolter

– *Astronomy & Astrophysics*, vol. 634, pp. A22, doi: <https://doi.org/10.1051/0004-6361/201936791>, February 2020

• AR[29] – Monte Carlo studies for the optimisation of the Cherenkov Telescope Array layout

A. Acharyya, I. Agudo, E.O. Anguner ... **G. Romeo** ...S. Zimmer, J. Zorn

– *Astroparticle Physics*, vol. 111, pp. 35-53, doi: <https://doi.org/10.1016/j.astropartphys.2019.04.001>, September 2019

• AR[28] – The ASTRI Camera control software of the ASTRI SST-2M prototype for the Cherenkov Telescope Array

P Sangiorgi, M Capalbi, O Catalano, S Giarrusso, R Gimenes, D Impiombato, G La Rosa, F Russo, A Segreto, G Sottile, A Grillo, G Bonanno, D Marano, S Garozzo, **G. Romeo**, V Conforti, F Gianotti, M Trifoglio, CTA ASTRI Project

– *Nuclear and Particle Physics Proceedings*, vol. 306, pp. 28-36, doi: <https://doi.org/10.1016/j.nuclphysbps.2019.07.004>, November 2019

• AR[27] - Novel Silicon Photomultipliers suitable for Dual-Mirror Small-Sized Telescopes of the Cherenkov Telescope Array

G. Romeo, G. Bonanno, G. Sironi, M.C. Timpanaro

– *Nuclear Instruments and Methods in Physics Research Section A*, vol. 908, pp. 117 – 127, ISSN: 0168-9002,
doi: <https://doi.org/10.1016/j.nima.2018.08.035>, August 2018

• AR[26] - Science with the Cherenkov Telescope Array (ebook)

B.S. Acharya *et al* (580 additional authors included **G. Romeo**)

- *ebook*, World Scientific Publishing Co. Pte. Ltd, ISBN 9789813270084, DOI: <https://doi.org/10.1142/10986>, March 2019

– *preprint arXiv*: <https://arxiv.org/abs/1709.07997>

Link di riferimento CTA Observatory: <https://www.cta-observatory.org/cta-releases-updated-science-case/>

• AR[25] - SENSE: A comparison of photon detection efficiency and optical crosstalk of various SiPM devices

A. Nagai, C. Alispach, T. Berghofer, G. Bonanno, V. Coco, D. della Volpe, A. Haungs, M. Heller, K. Henjes-Kunst, R. Mirzoyan, T. Montaruli, **G. Romeo**, Y. Renier, H.C. Schultz-Coulon, W. Shen, D. Strom, H. Tajima, I. Troyano-Pujadas

– *Nuclear Instruments and Methods in Physics Research Section A*, vol. 912, pp. 182 – 185
doi: <https://doi.org/10.1016/j.nima.2017.11.018>, December 2018

• AR[24] - Evaluation of silicon photomultipliers for dual-mirror Small-Sized Telescopes of Cherenkov Telescope Array

A. Asano, D. Berge, G. Bonanno, M. Bryan, B. Gebhardt, A. Grillo, N. Hidaka, P. Kachru, J. Lapington, S. Leach, Y. Nakamura, A. Okumura, **G. Romeo**, D. Ross, M. Stephan, H. Tajima, M.C. Timpanaro, R. White, N. Yamane, A. Zink

– *Nuclear Instruments and Methods in Physics Research Section A*, vol. 912, pp. 177 - 181
doi: <https://doi.org/10.1016/j.nima.2017.11.017>, December 2018

• AR[23] - The Muon Portal Project: Commissioning of the full detector and first results

F. Riggi, V. Antonuccio, M. Bandieramonte, U. Becciani, G. Bonanno, D.L. Bonanno, D. Bongiovanni, P.G. Fallica, G. Gallo, S. Garozzo, A. Grillo, P. La Rocca, E. Leonora, F. Longhitano, D. Lo Presti, D. Marano, N. Randazzo, O. Parasole, C. Petta, S. Riggi, G. Romeo, M. Romeo, G.V. Russo, G. Santagati, M.C. Timpanaro, G. Valvo

- *Nuclear Instruments and Methods in Physics Research Section A*, vol. 912, pp. 16 – 19, ISSN: 0168-9002,

doi: <https://doi.org/10.1016/j.nima.2017.10.006>, December 2018

• AR[22] - Prospects for Cherenkov telescope array observations of the young supernova REMNANT RX J1713.7-3946

F. Acero *et al* (381 additional authors included G. Romeo)

- *The Astrophysical Journal, High Energy Astrophysical Phenomena*, 840 (2017) 74

doi: <https://doi.org/10.3847/1538-4357/aa6d67>, April 2017

• AR[21] - Procedure for the relative calibration of the SiPM gain on ASTRI SST-2M camera

D. Impiombato, O. Catalano, S. Giarrusso, T. Mineo, G. La Rosa, C. Gargano, P. Sangiorgi, A. Segreto, G. Sottile, G. Bonanno, S. Garozzo, A. Grillo, D. Marano, G. Romeo, R. Gimenes

- *Experimental Astronomy*, Vol. 43 (1), pp. 1-17, ISSN: 0922-6435,

doi: <https://doi.org/10.1007/s10686-016-9516-z>, February 2017

• AR[20] - The Muon Portal Project: Design and construction of a scanning portal based on muon tomography

V. Antonuccio, M. Bandieramonte, U. Becciani, D.L. Bonanno, G. Bonanno, D. Bongiovanni, P.G. Fallica, S. Garozzo, A. Grillo, P. La Rocca, E. Leonora, F. Longhitano, D. Lo Presti, D. Marano, O. Parasole, C. Pugliatti, N. Randazzo, F. Riggi, S. Riggi, G. Romeo, M. Romeo, G.V. Russo, G. Santagati, M.C. Timpanaro, G. Valvo

- *Nuclear Instruments and Methods in Physics Research A*, vol. 845, pp. 322-325, ISSN: 0168-9002, doi:

<https://doi.org/10.1016/j.nima.2016.05.006>, February 2017

• AR[19] - Front-End Electronics for the Muon Portal Project

S. Garozzo, D. Marano, G. Bonanno, A. Grillo, G. Romeo, M.C. Timpanaro, D. Lo Presti, F. Riggi, V. Russo, D. Bonanno, P. La Rocca, F. Longhitano, D. G. Bongiovanni, G. Fallica, G. Valvo

- *Nuclear Instruments and Methods in Physics Research A*, vol. 833, pp. 169-180, ISSN: 0168-9002, doi:

<https://doi.org/10.1016/j.nima.2016.07.009>, October 2016

• AR[18] - A New Simple and Effective Procedure for SiPM Electrical Parameter Extraction

Davide Marano, Giovanni Bonanno, Salvatore Garozzo, Alessandro Grillo and Giuseppe Romeo

- *IEEE Sensors Journal*, vol. 16, no. 10, pp. 3620-3626, ISSN: 1530-437X,

doi: <https://doi.org/10.1109/JSEN.2016.2530848>, May 2016

• AR[17] - Characterization of 6x6-mm²75-μm cell MPPC suitable for the Cherenkov Telescope Array project

G. Romeo, G. Bonanno, S. Garozzo, A. Grillo, D. Marano, M. Munari, M.C. Timpanaro, O. Catalano, S. Giarrusso, D. Impiombato, G. La Rosa, G. Sottile

- *Nuclear Instruments and Methods in Physics Research A*, vol. 826, pp. 31 - 38, ISSN: 0168-9002,

doi: <https://doi.org/10.1016/j.nima.2016.04.060>, April 2016

• AR[16] - New Improved Model and Accurate Analytical Response of SiPMs Coupled to Read-Out Electronics

Davide Marano, Giovanni Bonanno, Salvatore Garozzo, Alessandro Grillo and Giuseppe Romeo

- *IEEE Sensors Journal*, Vol. 16, no. 1, pp. 19-21, ISSN: 1530-437X,

doi: <https://doi.org/10.1109/JSEN.2015.2464077>, January 2016

• AR[15] - The Muon Portale Double Tracker to Inspect Traveling Containers

C. Pugliatti, V. Antonuccio, M. Bandieramonte, U. Becciani, F. Belluomo, M. Belluso, S. Billotta, A. Blancato, D. Bonanno, G. Bonanno, A. Costa, G. Fallica, S. Garozzo, P. La Rocca, E. Leonora, F. Longhitano, S. Longo, D. Lo Presti, P. Massimino, C. Petta, C. Pistagna, M. Puglisi, N. Randazzo, F. Riggi, S. Riggi, **G. Romeo**, V. Russo, G. Santagati, G. Valvo, F. Vitello, A. Zaia

- *IEEE Transactions on Nuclear Science*, vol. 62 (6), pp. 3148-3154, ISSN: 0018-9499,

doi: <https://doi.org/10.1109/TNS.2015.2497079>, December 2015

• AR[14] - Advances in Multi-Pixel Photon Counter Technology: First Characterization Results

G. Bonanno, D. Marano, **G. Romeo**, S. Garozzo, A. Grillo, M.C. Timpanaro, O. Catalano, S. Giarrusso, D. Impiombato, G. La Rosa, G. Sottile

- *Nuclear Instruments and Methods in Physics Research A*, vol. 806, pp. 383-394, ISSN: 0168-9002, doi:

<https://doi.org/10.1016/j.nima.2015.10.064>, October 2015

• AR[13] - Characterization and performance of the ASIC (CITIROC) front-end of the ASTRI camera

D. Impiombato, S. Giarrusso, T. Mineo, O. Catalano, C. Gargano, G. La Rosa, F. Russo, G. Sottile, S. Billotta, G. Bonanno, S. Garozzo, A. Grillo, D. Marano, **G. Romeo**.

- *Nuclear Instruments and Methods in Physics Research A*, vol. 794, pp. 185-192, ISSN: 0168-9002, doi:

<https://doi.org/10.1016/j.nima.2015.05.028>, September 2015

• AR[12] - Fabrication, characterization and testing of silicon photomultipliers for the Muon Portal Project

P. La Rocca, S. Billotta, A.A. Blancato, D. Bonanno, G. Bonanno, G. Fallica, S. Garozzo, D. Lo Presti, D. Marano, C. Pugliatti, F. Riggi, **G. Romeo**, G. Santagati, G. Valvo.

- *Nuclear Instruments and Methods in Physics Research Section A*, vol. 787, pp. 236-239, ISSN: 0168-9002, doi:

<https://doi.org/10.1016/j.nima.2014.12.026>, July 2015

• AR[11] - PSPICE High-Level Model and Simulations of the EASIROC Analog Front-End

Davide Marano, Giovanni Bonanno, Sergio Billotta, Massimiliano Belluso, Alessandro Grillo, Salvatore Garozzo, **Giuseppe Romeo**, Osvaldo Catalano, Giovanni La Rosa, Giuseppe Sottile, and Domenico Impiombato

- *International Journal of Modelling and Simulation*, vol. 34, No.4, ISSN: 0228-6203,

doi: <https://doi.org/10.2316/Journal.205.2014.4.205-6005>, March 2015

• AR[10] - Electro-Optical characterization of MPPC Detectors for the ASTRI Cherenkov telescope camera

D. Marano, M. Belluso, G. Bonanno, S. Billotta, A. Grillo, S. Garozzo, **G. Romeo**, O. Catalano, G. La Rosa, G. Sottile, D. Impiombato, S. Giarrusso.

- *Nuclear Instruments and Methods in Physics Research A*, vol. 768, pp. 32-42, ISSN: 0168-9002,

doi: <https://doi.org/10.1016/j.nima.2014.09.015>, December 2014

• AR[9] - Characterization Measurements Methodology and Instrumental Set-up Optimization for new SiPM Detectors - Part I: Electrical Tests

Bonanno Giovanni, Marano Davide, Belluso Massimiliano, Billotta Sergio, Grillo Alessandro, Garozzo Salvatore, **Romeo Giuseppe** and Timpanaro Maria Cristina.

- *IEEE Sensors Journal*, vol. 14, no. 10, pp. 3557-3566, ISSN: 1530-437X,

doi: <https://doi.org/10.1109/JSEN.2014.2328621>, October 2014

• AR[8] - Accurate Analytical Single-Photoelectron Response of Silicon Photomultipliers

Marano Davide, Bonanno Giovanni, Belluso Massimiliano, Billotta Sergio, Grillo Alessandro, Garozzo Salvatore, **Romeo Giuseppe**.

- *IEEE Sensors Journal*, vol. 14, no. 8, pp. 2749-2754, ISSN: 1530-437X,

doi: <https://doi.org/10.1109/JSEN.2014.2316363>, August 2014

• **AR[7] - Characterization Measurements Methodology and Instrumental Set-up Optimization for new SiPM Detectors - Part II: Optical Tests**

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Marcos Santander, Sara Buson, Ke Fang, Azadeh Keivani, Thomas Maccarone, Kohta Murase, Maria Petropoulou, Ignacio Taboada, Nathan Whitehorn

Endorsers: Atreya Acharyya, Ivan Agudo ... **Giuseppe Romeo**

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• P[8] - SENSE - a roadmap for the ideal low light level sensor development - WP2: R&D Cooperation

T. Montaruli, D. Della Volpe, A. Nagai, M. Heller, R. Mirzoyan, A. Haungs, K. Henjes-Kunst, T. Berghofer, H. Tajima, G. Bonanno, **G. Romeo**, H.C. Schultz-Coulon, W. Shen

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• P[7] - ASTRI SST-2M camera electronics

G. Sottile, O. Catalano, G. La Rosa, M. Capalbi, C. Gargano, S. Giarrusso, D. Impiombato, F. Russo, P. Sangiorgi, A. Segreto, G. Bonanno, S. Garozzo, D. Marano, **G. Romeo**, S. Scuderi, L. Stringhetti, R. Canestrari, R. Gimenes and for the ASTRI Collaboration and CTA Consortium

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• P[6] - End to End Calibration of the ASTRI Photo Detection Modules

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• P[5] - FPGA Firmware Optimization and Verification of the Functional Task Modules for the Front-End Electronics of the ASTRI SST-2M Telescope Camera

D. Marano, S. Garozzo, **G. Romeo**, G. Bonanno, A. Grillo, M.C. Timpanaro for the ASTRI collaboration and CTA Consortium

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• P[4] - SiPM Detectors Characterization, Production and Testing of the 37 Silicon Photomultiplier Interface Boards for the Camera of the ASTRI SST-2M Telescope Prototype.

G. Bonanno, S. Billotta, S. Garozzo, A. Grillo, D. Marano, **G. Romeo**, M. C. Timpanaro

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• P[3] - SiPM Detectors Distribution and Best Operating Voltages of the 1984 Silicon Photomultipliers Logical Pixels for the ASTRI SST-2M Telescope Prototype.

G. Bonanno, S. Billotta, S. Garozzo, A. Grillo, D. Marano, **G. Romeo**, M. C. Timpanaro

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• P[2] - SiPM interface board e sistemi di interfacciamento per la caratterizzazione di una PDM di rivelatori della camera ASTRI

S. Garozzo, **G. Romeo**, D. Marano, A. Grillo, M. Belluso, S. Billotta, G. Bonanno, M. C. Timpanaro

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• P[1] - Fabrication, characterization and testing of silicon photomultipliers for the Muon Portal Project

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Giuseppe Romeo

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• AR[56] - ASTRI Mini-Array Test Report of 10 Tile HEAC3521 CAMERA 01

Giuseppe Romeo

Code: ASTRI-INAF-TRE-7320-002, Settembre 2021

• AR[55] - ASTRI Mini-Array Test Report of 10 Tile HEAC3521 CAMERA 02

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• AR[54] - Caratterizzazione del sensore CMOS GSENSE-4040 della camera C4 della Moravian

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• AR[53] - ASTRI Mini-Array Test Report of 15 selected tiles from 54 Production Batch HEAC5179 Delivered Batch No. 03

Giuseppe Romeo

-Code: **ASTRI-INAF-TRE**-7320-005, Gennaio 2022

• AR[52] - ASTRI Mini-Array Test Report of 10 selected tiles from 34 Production Batch HEAC5518 Delivered Batch No. 04

Giuseppe Romeo

-Code: ASTRI-INAF-TRE-7320-006, Gennaio 2022

• AR[51] - ASTRI Mini-Array Test Report of 19 selected tiles from 64 Production Batches HEAC5521 and HEAC5830 Shipped Package No. 05

Giuseppe Romeo

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- TR[50] - Caratterizzazione del SiPM Hamamatsu MPPC LVR3 S14160-3050TSV selezionato per i progetti Muography of Etna Volcano (MEV) e New Muon Portal (NMP)

Giuseppe Romeo

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- TR[48] - How a very high GBWP (3.0 GHz) preamplifier and high bandwidth of a front-end electronics may solve the Optical Cross-Talk issue

Giuseppe Romeo

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- TR[46] - Influence of the continuous light flux on the SiPM gain by using WEEROC QFP and BGA packages CITIROC 1A evaluation board

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Giuseppe Romeo

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• TR[42] - Aggiornamenti Firmware dell'FPGA per la Front-End Electronics della Camera del Telescopio ASTRI SST-2M - V1

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G. Romeo, G. Bonanno

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G. Romeo et al.

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• TR[36] - Caratterizzazione della Tile Hamamatsu 8x8 pixel di dimensioni 6.975x6.975mm²con microcella da 75µm**G. Romeo**, G. Bonanno- *Technical Report: ASTRI-TR-OACT-3200-026, link: www.brera.inaf.it/astri/**Link diretto <http://www.brera.inaf.it/astri-prototipo/private/login.php?pagina=documents;father=TR>*- *Technical Report prot. N. 01/2016, Osservatorio Astrofisico di Catania, link:**http://www.oact.inaf.it/weboac/Rapp_ Int_Tec/Romeo_RIT_01_2016_Report%20Test%20Tile%20Hamamatsu%20SiPM%206.975.pdf, March 2016***• TR[35] - ASTRI SST-2M Camera Relative Calibration Procedures**O. Catalano, D. Impiombato, S. Giarrusso, G. Bonanno, **G. Romeo**, D. Marano, S. Garozzo- *Technical Report: ASTRI-TN-LASFPA-3200-023, link: www.brera.inaf.it/astri/**Link diretto <http://www.brera.inaf.it/astri-prototipo/private/login.php?pagina=documents;father=TR>***• TR[34] - Characterization of SiPM SensL J-Series – Measures: Dark Stairs, Dark Count Rate and Cross-Talk****Giuseppe Romeo**- *Technical Report prot. N. 11/2015, Osservatorio Astrofisico di Catania, link:**http://www.oact.inaf.it/weboac/Rapp_ Int_Tec/Romeo_RIT_11_2015_GROMEO_Technical_Report_characterization_SiPM_SensL-JSeries.pdf, July 2015***• TR[33] - Rapporto di caratterizzazione elettro-ottica RI:2.4 – Fase iniziale – Device: ST Microelectronics SiPM type:P on N montato su cerdip package.****Giuseppe Romeo**- *Technical Report prot. N. 09/2013, Osservatorio Astrofisico di**Catania, link: http://www.oact.inaf.it/weboac/Rapp_ Int_Tec/Romeo_RIT_09_2013_PORTALE_Rapporto_Tecnico_RI_2.4_Iniziale.pdf, July 2013***• TR[32] - Rapporto di caratterizzazione elettro-ottica RI:2.4 – Fase finale – Device: ST Microelectronics SiPM type:P on N montato su front-end in SMD.****Giuseppe Romeo**- *Technical Report prot. N. 01/2014, Osservatorio Astrofisico di**Catania, link: http://www.oact.inaf.it/weboac/Rapp_ Int_Tec/Romeo_RIT_01_2014_PORTALE_Rapporto_Tecnico_RI_2.4_Finale.pdf, July 2015***• TR[31] - Characterization of SiPM FBK NUV-HD – Measures: Dark Stairs, Dark Count Rate and Cross-Talk****Giuseppe Romeo**- *Technical Report prot. N. 08/2015, Osservatorio Astrofisico di**Catania, link: http://www.oact.inaf.it/weboac/Rapp_ Int_Tec/Romeo_RIT_08_2015_GROMEO_Technical_Report_characterization_SiPM_FBK_NUV_HD.pdf, July 2015***• TR[30] - Characterization of SiPM SensL ArrayES: TSV (Version E32)–Measures: Dark Stairs, Dark Count Rate and Cross-Talk****Giuseppe Romeo**- *Technical Report prot. N. 10/2015, Osservatorio Astrofisico di Catania, link:**http://www.oact.inaf.it/weboac/Rapp_ Int_Tec/Romeo_RIT_10_2015_GROMEO_Technical_Report_characterization_SiPM_SensL.pdf, May 2015*

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Giuseppe Romeo

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D. Marano, **G. Romeo**, S. Garozzo, G. Bonanno, A. Grillo, M.C. Timpanaro

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• TR[15] - MPPCs Electrical Characterization Report**Giuseppe Romeo**, Giovanni Bonanno

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• TR[14] - MPPC Hamamatsu Photonics Characterization report – Device: S11828-3344M monolithic array 16ch (4x4)**Giuseppe Romeo et al.**

- Technical Report: ASTRI-TR-OACT-3200-007, link: www.brera.inaf.it/astri/

Link diretto <http://www.brera.inaf.it/astri-prototipo/private/login.php?pagina=documents;father=TR>

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http://www.oact.inaf.it/weboac/Rapp_It_Tec/Romeo_RIT_13_2013_GROMEO_Technical_Report_Chatacerization_SiPM_Excelitas_A1001.pdf, July 2013

• TR[13] - Silicon Photomultiplier Characterization Report – Device: SiPM Hamamatsu 3x3mm cell pitch 100µm - S/N.**A0007 Type No: S12652-100C(X)****Giuseppe Romeo**, Giovanni Bonanno

- Technical Report prot. N. 16/2013, Osservatorio Astrofisico di Catania, link:

http://www.oact.inaf.it/weboac/Rapp_It_Tec/Romeo_RIT_16_2013_GROMEO_Technical_Report_Chatacerization_SiPM_Hamamatsu_S_N_A007_100um.pdf, July 2013

• TR[12] - Silicon Photomultiplier Characterization Report – Device: SiPM Hamamatsu 3x3mm cell pitch 50µm - S/N. 1**Giuseppe Romeo**, Giovanni Bonanno

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• TR[11] - Silicon Photomultiplier Characterization Report – Device: SiPM Excelitas 3x3mm cell pitch 50µm - S/N. A1001**Giuseppe Romeo**, Giovanni Bonanno

- Technical Report prot. N. 13/2013, Osservatorio Astrofisico di Catania, ref:

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• TR[10] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:P on N - ACR single layer - S/N. SPM10H5-60P-Y239187-wf04**Giuseppe Romeo**, Giovanni Bonanno

- Technical Report prot. N. 08/2013, Osservatorio Astrofisico di Catania, ref:

http://www.oact.inaf.it/weboac/Rapp_It_Tec/Romeo_RIT_08_2013_PORTALE_Rapporto_Tecnico_SPM10H5_60P_Y239187_wf04.pdf, May 2013

- TR[9] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:N on P - S/N. SPM10H5-60N-Y226144-wf09

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 05/2013, Osservatorio Astrofisico di Catania, ref:

http://www.oact.inaf.it/weboac/Rapp_Int_Tec/Romeo_RIT_05_2013_PORTALE_Rapporto_Tecnico_SPM10H5_60N_Y226144_wf09.pdf, May 2013

- TR[8] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:N on P - S/N. SPM10H5-60N-Y226144-wf19

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 06/2013, Osservatorio Astrofisico di Catania, ref:

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- TR[7] - Silicon Photomultiplier Characterization Report – Device: SensL MicroFJ-SMTPA-60035 - S/N 1 Lot# 150925

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 12/2015, Osservatorio Astrofisico di Catania, ref:

http://www.oact.inaf.it/weboac/Rapp_Int_Tec/Romeo_RIT_12_2015_Report%20SensL%20MicroFJ-SMTPA-60035.pdf, May 2013

- TR[6] - Silicon Photomultiplier Characterization Report – Device: SiPM Hamamatsu Array ASTRI cell pitch 50 μ m - S/N. 164

Giuseppe Romeo

- Technical Report prot. N. 15/2013, Osservatorio Astrofisico di Catania, ref:

http://www.oact.inaf.it/weboac/Rapp_Int_Tec/Romeo_RIT_15_2013_GROMEO_Technical_Report_Chatacerization_SiPM_Hamamatsu_MPPC_ASTRI_164_pixel_C3.pdf, May 2013

- TR[5] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:P on N - S/N. SPM10H5-60P-Y228159-wf02

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 07/2013, Osservatorio Astrofisico di Catania, ref:

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- TR[4] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:N on P - S/N. SPM10H5-60N-Y223131-wf16

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 04/2013, Osservatorio Astrofisico di Catania, ref:

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- TR[3] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:P on N - S/N. 3 –SPM10-60

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 03/2013, Osservatorio Astrofisico di Catania, ref:

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- TR[2] - Silicon Photomultiplier Characterization Report – Device: ST Microelectronics SiPM type:N on P - S/N. 6 –SPM10-60

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 02/2013, Osservatorio Astrofisico di Catania, ref:

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- TR[1] - Silicon Photomultiplier Characterization Report – Device: SiPM Excelitas 3x3mm cell pitch 50 μ m - S/N. D3932

Giuseppe Romeo, Giovanni Bonanno

- Technical Report prot. N. 14/2013, Osservatorio Astrofisico di Catania, ref:

http://www.oact.inaf.it/weboac/Rapp_Int_Tec/Romeo_RIT_14_2013_GROMEO_Technical_Report_Chatacerization_SiPM_Excelitas_C_30742_33_050C_D3932.pdf, January 2013

Comunicazioni a Convegni e Meeting Internazionali (in qualità di relatore)

- C[5] – “SiPM Detectors Distribution and Best Operating Voltages of the 1984 Silicon Photomultipliers Logical Pixels for the Camera of the ASTRI SST-2M Telescope Prototype”

G. Romeo, G. Bonanno

- 16th CTA Consortium Generl Collaboration Meeting, Giardini Naxox (Messina), September 2014.

- C[4] – “FPGA Firmware Optimization and Verification of the Functional Task Modules for the Front-End Electronics of the ASTRI SST-2M Telescope Camera”

G. Romeo, G. Bonanno et al

- 20th CTA Consortium General Collaboration Meeting, Bologna, October 2016

- C[3] – “SiPM Detectors Characterization, Production and Testing of the 37 Silicon Photomultiplier Interface Boards for the Camera of the ASTRI SST-2M Telescope Prototype”

G. Romeo, G. Bonanno

- 16th CTA Consortium Generl Collaboration Meeting, Giardini Naxox (Messina), September 2014

- C[2] – “SiPM Detectors Distribution and Best Operating Voltages of the 1984 Silicon Photomultipliers Logical Pixels for the ASTRI SST-2M Telescope Prototype”

G. Romeo, G. Bonanno

- 16th CTA Consortium Generl Collaboration Meeting, Giardini Naxox (Messina), September 2014

- C[1] – “SiPM Detectors and Front-End Electronics Characterization, Production and Testing for the Camera at the Focal Plane of the ASTRI SST-2M Telescope Prototype”

G. Romeo, G. Bonanno et al

- 9th ASTRI Collaboration Meeting, Bologna, February 2015

Altri Contributi a Convegni e Meeting Internazionali

- V[8] – “The Silicon Photomultipliers (SiPM) Trade-Off for the ASTRI-CTA Mini-Array Camera and Detectors Procurement Roadmap – part II”

G. Bonanno, **G. Romeo** et al

- 3rd SiPM Advanced Workshop, Palermo, May 2016

- V[7] – “The Silicon Photomultipliers (SiPM) Trade-Off for the ASTRI-CTA Mini-Array Camera and Detectors Procurement Roadmap – part I”

G. Bonanno, **G. Romeo** et al

- 9th ASTRI Collaboratione Meeting, Bologna, February 2015

• V[6] – “Set-up Elettronico per la Caratterizzazione della PDM ASTRI con EASIROC”

G. Bonanno, G. Romeo et al

- 8th ASTRI Collaboratione Meeting, Perugia, October 2014

• V[5] – “Characterization of Recenly Manufactured 3x3 mm² and 6x6 mm² SiPM by Hamamatsu ad Excelitas”

G. Bonanno, G. Romeo et al

- 2nd SiPM Advanced Workshop, Geneva, March 2014

• V[4] – “Back-End Electronics (Status)”

M. Belluso, and the ASTRI Electronics Camera Team

- 7th ASTRI Collaboration Meeting, Napoli, October 2013

• V[3] – “SiPM, Characterization, Modeling and Front-End Electronics for ASTRI and CTA project”

G. Bonanno, G. Romeo et al.

- SiPM: Who Is Who Telecon, organized by Max Plank Institute for Physics, Munich, April 2013

• V[2] – “Status Report on SiPMs Characterization for ASTRI Camera”

M. Belluso, S. Beillotta, G. Bonanno, S. Garozzo, A. Grillo, D. Marano, G. Romeo, M.C. Timpanaro

- 6th ASTRI Collaboration Meeting, Padova, March 2013

• V[1] – “SiPM interface board e sistemi di interfacciamento per la caratterizzazione di una PDM di rivelatori della camera ASTRI”

S. Garozzo, G. Romeo, D. Marano, A. Grillo, M. Belluso, S. Billotta, G. Bonanno, M.C. Timpanaro

- 8th ASTRI Collaboration Meeting, Perugia, October 2014

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