

List of Publications

Corresponding Author Papers

1. Sharma, A & Becherini, Y., Constraining the proton content in blazar SEDs through unsupervised learning, *Astronomy & Astrophysics* (**under preparation**)
2. Sharma, A. Multi-Messenger Connection in High-Energy Neutrino Astronomy. *Universe*. **10**, 326 (2024)
3. A. Marinelli *et al.* [KM3NeT], “KM3NeT/ARCA expectations in view of a novel multimessenger study of starburst galaxies,” *JINST* **16** (2021) no.12, C12016 doi:10.1088/1748-0221/16/12/C12016 [arXiv:2108.00176 [astro-ph.HE]].
4. Sacahui, J., Penacchioni, A., Marinelli, A., Sharma, A., Castro, M., Osorio, J. & Morales, M. Study of blazar activity in 10 year Fermi-LAT data and implications for TeV neutrino expectations. *Rev. Mex. Astron. Astrofis.* **57**, 251-268 (2021)
5. Marinelli, A., Sacahui, J., Sharma, A. & Osorio-Archila, M. Analysing the gamma-ray activity of neutrino emitter candidates: comparing TXS 0506+056 with other blazars. *Mon. Not. Roy. Astron. Soc.* **506**, 3760-3772 (2021)
6. Sharma, A. Analyzing the High Energy Activity of Candidate Neutrino Emitter Blazars to Constrain their Observability through Deep Sea/Ice Cherenkov Telescopes. (U. Pisa (main), 2020)
7. Kučáková, H., Mikhalechenko, O., Popescu, M., Ransome, C. & Sharma, A. Optical spectra of near-Earth asteroids (381906) 2010 CL19 and (453778) 2011 JK. *Contributions Of The Astronomical Observatory Skalnaté Pleso*. **49**, 532-538 (2019,12)

Corresponding Author Proceedings

1. R. Abbasi *et al.* [IceCube], “A model-independent analysis of neutrino flares detected in IceCube from X-ray selected blazars,” *PoS ICRC2021* (2021), 971 doi:10.22323/1.395.0971 [arXiv:2107.08159 [astro-ph.HE]].
2. C. L. Gualda *et al.* [IceCube], “Studies of systematic uncertainty effects on IceCube’s real-time angular uncertainty,” *PoS ICRC2021* (2021), 1045 doi:10.22323/1.395.1045 [arXiv:2107.08670 [astro-ph.HE]].
3. Idrissi Ibnsalih, W., Ambrosone, A., Marinelli, A., Miele, G., Migliozi, P., Pisanti, O. & Sharma, A. Expectations for the high-energy neutrino detection from starburst galaxies with KM3NeT/ARCA. *PoS. ICRC2021* pp. 1168 (2021)
4. Sharma, A., Marinelli, A., Sacahui Reyes, J. & Osorio, M. Characterizing the High-Energy Activity of Blazars Possibly Correlated with Observed Astrophysical Neutrinos. *PoS. ICRC2019* pp. 1009 (2020)
5. Sharma, A. & Marinelli, A. Time-Dependent Sensitivity and Discovery Potential of KM3NeT-ARCA detector. *PoS. ICRC2019* pp. 998 (2021)
6. Marinelli, A., Coniglione, R. & Sharma, A. KM3NeT/ARCA Expectations for the Low Latitude Bubbles. *PoS. ICRC2019* pp. 956 (2020)

KM3NeT Collaboration Papers

1. D. Tortosa, D. *et al.* KM3NeT Detection Unit Line Fit reconstruction using positioning sensors data. *JINST*. **16**, C09023 (2021)
2. Ageron, M. *et al.* PMT gain calibration and monitoring based on highly compressed hit information in KM3NeT. *JINST*. **16**, C09011 (2021)
3. Marinelli, A. *et al.* KM3NeT/ARCA expectations in view of a novel multimessenger study of starburst galaxies. *JINST*. **16**, C12016 (2021)

4. Soto, A. *et al.* Sensitivity estimates for diffuse, point-like, and extended neutrino sources with KM3NeT/ARCA. *JINST.* **16**, C09030 (2021)
5. Aiello, S. *et al.* Architecture and performance of the KM3NeT front-end firmware. *J. Astron. Telesc. Instrum. Syst.* **7**, 016001 (2021)
6. Ageron, M. *et al.* Indirect dark matter searches with neutrinos from the Galactic Centre region with the ANTARES and KM3NeT telescopes. *PoS. ICRC2021* pp. 537 (2021)
7. Nauta, L. *et al.* First neutrino oscillation measurement in KM3NeT/ORCA. *PoS. ICRC2021* pp. 1123 (2021)
8. Samtleben, D. *et al.* The Calibration Units of KM3NeT. *PoS. ICRC2021* pp. 1096 (2021)
9. Manczak, J. *et al.* Neutrino non-standard interactions with the KM3NeT/ORCA detector. *PoS. ICRC2021* pp. 1165 (2021)
10. Aiello, S. *et al.* gSeaGen: The KM3NeT GENIE-based code for neutrino telescopes. *Comput. Phys. Commun.* **256** pp. 107477 (2020)
11. Marinelli, A., Coniglione, R. & Sharma, A. KM3NeT/ARCA Expectations for the Low Latitude Bubbles. *PoS. ICRC2019* pp. 956 (2020)
12. Aiello, S. *et al.* The Control Unit of the KM3NeT Data Acquisition System. *Comput. Phys. Commun.* **256** pp. 107433 (2020)
13. Aiello, S. *et al.* KM3NeT front-end and readout electronics system: hardware, firmware and software. *J. Astron. Telesc. Instrum. Syst.* **5**, 046001 (2019)
14. Aiello, S. *et al.* Sensitivity of the KM3NeT/ARCA neutrino telescope to point-like neutrino sources. *Astropart. Phys.* **111** pp. 100-110 (2019)
15. Aiello, S. *et al.* Characterisation of the Hamamatsu photomultipliers for the KM3NeT Neutrino Telescope. *JINST.* **13**, P05035 (2018)

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1. Ayala, H. *et al.* Multimessenger NuEM Alerts with AMON. *PoS. ICRC2021* pp. 958 (2021)
2. Ageron, M. *et al.* Indirect dark matter searches with neutrinos from the Galactic Centre region with the ANTARES and KM3NeT telescopes. *PoS. ICRC2021* pp. 537 (2021)

IceCube Collaboration Papers

1. Abbasi, R. *et al.* Towards the Composition of sub-PeV Cosmic Rays at IceCube. *PoS. TAUP2023* pp. 137 (2024)
2. Abbasi, R. *et al.* In situ estimation of ice crystal properties at the South Pole using LED calibration data from the IceCube Neutrino Observatory. *The Cryosphere.* **18**, 75-102 (2024)
3. Abbasi, R. *et al.* Cosmic ray detection with the IceTop Enhancement. *PoS. EPS-HEP2023* pp. 081 (2024)
4. Kurahashi Neilson, N. *et al.* Highlights from the IceCube Neutrino Observatory. *PoS. ICRC2023* pp. 017 (2024)
5. Schüssler, F. *et al.* Joint searches by FACT, H.E.S.S., MAGIC and VERITAS for VHE gamma-ray emission associated with neutrinos detected by IceCube. *PoS. ICRC2023* pp. 1501 (2023)
6. Yu, S. *et al.* Search for TeV Neutrinos from Seyfert Galaxies in the Southern Sky using Starting Track Events in IceCube. *PoS. ICRC2023* pp. 1533 (2024)
7. Abbasi, R. *et al.* Three-year performance of the IceAct telescopes at the IceCube Neutrino Observatory. *PoS. ICRC2023* pp. 367 (2023)

8. Paul, L. *et al.* Towards a cosmic ray composition measurement with the IceAct telescopes at the IceCube Neutrino Observatory. *PoS. ICRC2023* pp. 237 (2023)
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12. Turcotte-Tardif, R. *et al.* Estimation of Xmax for air showers measured at IceCube with elevated radio antennas of a prototype surface station. *PoS. ICRC2023* pp. 326 (2023)
13. Koundal, P. *et al.* Cosmic-Ray Composition with IceTop and IceCube using graph neural networks. *PoS. ICRC2023* pp. 334 (2023)
14. Ackermann, M. *et al.* Cosmic Ray Anisotropy with 11 Years of IceCube Data. *PoS. ICRC2023* pp. 360 (2023)
15. Abbasi, R. *et al.* Accounting for changing snow over 10 years of IceTop, and its impact on the all-particle cosmic ray spectrum. *PoS. ICRC2023* pp. 377 (2023)
16. Rehman, A. *et al.* Search for Cosmic-Ray Events Using Radio Signals and CNNs in Data from the IceTop Enhancement Prototype Station. *PoS. ICRC2023* pp. 291 (2023)
17. Abbasi, R. *et al.* First results of low-energy neutrino follow-ups of Run O4 compact binary mergers with the IceCube Neutrino Observatory. *PoS. ICRC2023* pp. 1571 (2023)
18. Abbasi, R. *et al.* IceCube search for neutrinos from novae. *PoS. ICRC2023* pp. 1560 (2023)
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25. Hyman, K. *et al.* Seasonal Variations of the Atmospheric Neutrino Flux measured in IceCube. *PoS. ICRC2023* pp. 993 (2023)
26. Abbasi, R. *et al.* TXS 0506+056 with Updated IceCube Data. *PoS. ICRC2023* pp. 1465 (2023)
27. Sclafani, S. *et al.* Observation of High-Energy Neutrinos from the Galactic Plane. *PoS. ICRC2023* pp. 1108 (2023)
28. Abbasi, R. *et al.* Angular dependence of the atmospheric neutrino flux with IceCube data. *PoS. ICRC2023* pp. 1009 (2023)
29. Eller, P. *et al.* Sensitivity of the IceCube Upgrade to Atmospheric Neutrino Oscillations. *PoS. ICRC2023* pp. 1036 (2023)
30. Popovych, Y. *et al.* The Wavelength-Shifting Optical Module in Application to the IceCube Neutrino Observatory. *PoS. ICRC2023* pp. 992 (2023)
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38. Eller, P. *et al.* A model independent parametrization of the optical properties of the refrozen IceCube drill holes. *PoS. ICRC2023* pp. 1034 (2023)
39. Schlüter, B. *et al.* Detailed investigations of PMTs in optical sensors for neutrino telescopes such as IceCube Upgrade. *PoS. ICRC2023* pp. 984 (2023)
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42. Abbasi, R. *et al.* Summary of IceCube tau neutrino searches and flavor composition measurements of the diffuse astrophysical neutrino flux. *PoS. ICRC2023* pp. 1122 (2023)
43. Abbasi, R. *et al.* All-Energy Search for Solar Atmospheric Neutrinos with IceCube. *PoS. ICRC2023* pp. 1116 (2023)
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45. Bellenghi, C. *et al.* Extending the IceCube search for neutrino point sources in the Northern sky with additional years of data. *PoS. ICRC2023* pp. 1060 (2023)
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48. Tönnis, C. *et al.* A new simulation framework for IceCube Upgrade calibration using IceCube Upgrade Camera system. *PoS. ICRC2023* pp. 1071 (2023)
49. Abbasi, R. *et al.* Constraining MeV Neutrino Emission of Bright Transients with IceCube. *PoS. ICRC2023* pp. 1096 (2023)
50. Boettcher, J. *et al.* Search for the Prompt Atmospheric Neutrino Flux in IceCube. *PoS. ICRC2023* pp. 1068 (2023)
51. Bellenghi, C. *et al.* Extending SkyLLH software for neutrino point source analyses with 10 years of IceCube public data. *PoS. ICRC2023* pp. 1061 (2023)
52. Privon, G. *et al.* Search for high-energy neutrino emission from hard X-ray AGN with IceCube. *PoS. ICRC2023* pp. 1032 (2023)
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57. Abbasi, R. *et al.* D-Egg: a Dual PMT Optical Module for the IceCube Upgrade. *PoS. ICRC2023* pp. 1082 (2023)
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59. Anderson, T. *et al.* Design and Performance of the mDOM Mainboard for the IceCube Upgrade. *PoS. ICRC2023* pp. 967 (2023)
60. Lincetto, M. *et al.* An improved infrastructure for the IceCube realtime system. *PoS. ICRC2023* pp. 1106 (2023)
61. Abbasi, R. *et al.* Galactic Core-Collapse Supernovae at IceCube: “Fire Drill” Data Challenges and follow-up. *PoS. ICRC2023* pp. 1111 (2023)
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63. Kang, W. *et al.* Search for the rare interactions of neutrinos from distant point sources with the IceCube Neutrino Telescope. *PoS. ICRC2023* pp. 1380 (2023)
64. Aguilar Sanchez, J. *et al.* Search for Dark Matter annihilation in the center of the Earth with IceCube. *PoS. ICRC2023* pp. 1393 (2023)
65. Chau, N. *et al.* Indirect dark matter search in the Galactic Centre with IceCube. *PoS. ICRC2023* pp. 1394 (2023)
66. Abbasi, R. *et al.* Search for Dark Matter Decay in Nearby Galaxy Clusters and Galaxies with IceCube. *PoS. ICRC2023* pp. 1378 (2023)
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71. Abbasi, R. *et al.* Search for Extended Sources of Neutrino Emission in the Galactic Plane with IceCube. *Astrophys. J.* **956**, 20 (2023)
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73. Abbasi, R. *et al.* A Search for IceCube Sub-TeV Neutrinos Correlated with Gravitational-wave Events Detected By LIGO/Virgo. *Astrophys. J.* **959**, 96 (2023), [Erratum: *Astrophys. J.* 971, 192 (2024)]
74. Abbasi, R. *et al.* Constraining High-energy Neutrino Emission from Supernovae with IceCube. *Astrophys. J. Lett.* **949**, L12 (2023)
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76. Koundal, P. *et al.* Cosmic-Ray Composition analysis at IceCube using Graph Neural Networks. *PoS. ECRS* pp. 085 (2023)
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95. Abbasi, R. *et al.* Searching for neutrino transients below 1 TeV with IceCube. *PoS. ICRC2021* pp. 1131 (2021)
96. Clark, B. *et al.* Characterization of the PeV astrophysical neutrino energy spectrum with IceCube using down-going tracks. *PoS. ICRC2021* pp. 1137 (2021)
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