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Probing electroweak physics with COHERENT data

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In recent years, coherent elastic neutrino nucleus scattering (CEvNS) has proven to be a useful tool for probing low-energy electroweak physics [1]. In this talk I will present the new constraints extracted on the weak mixing angle and nuclear physics [2] in the light of the latest CEvNS data reported by the COHERENT collaboration [3]. I will finally discuss briefly the implications of the new data to electromagnetic neutrino properties.

References

[1] M. Abdullah et al., *Coherent elastic neutrino-nucleus scattering: Terrestrial and astrophysical applications*, 2022 Snowmass Summer Study **arXiv: 2203.07361 [hep-ph]**

[2] V. De Romeri, O.G. Miranda, D.K. Papoulias, G. Sanchez Garcia, M. Tórtola, J.W.F. Valle, *Physics implications of a combined analysis of COHERENT CsI and LAr data*, **arXiv: 2211.11905 [hep-ph]**

[3] [COHERENT Collaboration] D. Akimov et al., *Measurement of the Coherent Elastic Neutrino-Nucleus Scattering Cross Section on CsI by COHERENT*, **Phys.Rev.Lett. 129 (2022) 8, 081801**

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