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Search for Magnetic Monopoles with ten years of ANTARES data

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This work presents an updated search for magnetic monopoles using data taken with the ANTARES neutrino telescope over a period of 10 years (January 2008 to December 2017). In accordance with some grand unification theories, magnetic monopoles were created during the phase of symmetry breaking in the early Universe, and accelerated by galactic magnetic fields. As a consequence of their high energy, they could cross the Earth and emit a significant signal in a Cherenkov-based telescope like ANTARES, for appropriate mass and velocity ranges. This analysis uses a run-by-run simulation strategy, as well as a new simulation of magnetic monopoles taking into account the Kasama, Yang and Goldhaber model for their cross section with matter. The results obtained for relativistic magnetic monopoles with $\beta = v/c \geq 0.55$, where v is the magnetic monopole velocity and c the speed of light in vacuum, will be presented.

Primary authors: BOUMAAZA, Jihad (University Mohamed V in Rabat); TAYALATI, yahya (University Mohammed V in Rabat); Prof. MOUSSA, Abdelilah (University Mohamed I Oujda); Prof. BRUNNER, Juergen (CPPM)

Presenter: BOUMAAZA, Jihad (University Mohamed V in Rabat)

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