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Search for a high-energy neutrino signal from Fast Radio Bursts with the ANTARES telescope

Fast Radio Bursts (FRB) are one of the most intriguing transient radio sources discovered a decade ago. The origin of these FRBs is still a great mystery despite the growing observational efforts made by various multi-wavelength and multi-messenger facilities. So far, many theories have been proposed but no progenitors have been clearly identified as well as the radiative and the particle acceleration processes at work. In this contribution, the question whether some hadronic processes may occur in the vicinity of the FRB source is assessed via the search of an associated high-energy neutrino flux. By design, the ANTARES telescope mainly observes the Southern sky (2π sr at any time) and is perfectly suited to search for a neutrino signal from transients that have been mainly detected in the Southern Hemisphere radio telescopes. In this contribution, we will present the results of the TeV-PeV neutrino searches with ANTARES and their implications for hadronic emission in such bursts.

Authorship annotation

on behalf the ANTARES Collaboration

Session and Location

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Poster included in proceedings:

yes

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