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P2.002 Search for a diffuse flux of astrophysical neutrinos with the ANTARES telescope

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The ANTARES detector is the largest and longest operated neutrino telescope in the Northern Hemisphere. The highly significant cosmic neutrino excess observed by the Antarctic IceCube detector can be studied in details with ANTARES, exploiting the complementarity of its fields of view. Its good exposure and effective area have already allowed putting stringent limits on the neutrino emission from the Southern Sky. All-flavour neutrino interactions can be observed and properly reconstructed by the experiment. In the muon track channel the effective volume of the detector is increased by the long path travelled by muons in rock and sea-water. This allows searching for events in a large volume of matter, even though the energy resolution for these events is limited. The shower channel can be used only in a limited volume surrounding the apparatus but a much better energy resolution is achieved. Searches for and all-sky diffuse neutrino signal have been prepared, using data collected with ANTARES from 2007 to 2015. The outcome of these searches will be reported in this contribution.