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Detection potential of the KM3NeT detector for high-energy neutrinos from the Fermi bubbles

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ABSTRACT

A recent analysis of the Fermi Large Area Telescope data provided evidence for a high-intensity emission of high-energy gamma rays with a E^{-2} spectrum from two large areas, spanning 50° above and below the Galactic centre (the "Fermi bubbles"). A hadronic mechanism was proposed for this gamma-ray emission making the Fermi bubbles promising source candidates of high-energy neutrino emission. In this work Monte Carlo simulations regarding the detectability of high-energy neutrinos from the Fermi bubbles with the future multi-km^3 neutrino telescope KM3NeT in the Mediterranean Sea are presented. Under

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