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## Cosmological effects on the astrophysical neutrinos flux

High energy neutrinos are produced in very distant sources of the Universe, such as Gamma Ray Bursts and Active Galactic Nuclei (AGN). Considering the neutrino magnetic moment, and the strong magnetic fields inside these objects, we study a possible conversion from active neutrinos to sterile neutrinos. We also include the cosmological effects like the expansion of the Universe, where the redshift can affect the oscillation probability. And as a consequence there could be a reduction in the astrophysical neutrinos flux from these sources, explaining the low events number in detectors like IceCube.

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