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# Neutrino Fluxes and Their Time Evolution in Microscopic Model of AGN Black Holes

## Abstract content

The recent 'microscopic' theory of black holes (Ter-Kazarian, G.T. 2001, J. Phys. Soc. Jpn., Suppl., B 70, 84; and references therein) predicts a large flux of extremely high energy. They are produced thermally by the predominant neutrino cooling of the superdense proto-matter core (SPC) of AGN via simple or "modified" URCA processes, and pionic reactions. We calculate the neutrino fluxes emitted from probable 234 AGN black holes, with the well-determined masses and bolometric luminosities collected from the literature. The derived EHE neutrino fluxes are in good agreement with the results presented in literature. We also study the time evolution of spectrum of neutrinos of both the fueling at accretion onto SPC and its neutrino cooling. The part of these neutrinos would be lost in the accretion disk and in a torus of hot gas surrounding the SPC to produce, further, the secondary EHE electrons, which, in turn, through well-known relevant processes of pair-production, inverse Compton scattering and synchrotron radiation may give rise a secondary flux of the gamma-rays (GRs). Therefore, the extra-galactic sources- the AGNs, can be strong EHE neutrino and GR emitters.

## If this papers is presented for a collaboration, please specify the collaboration

## Summary

## Reference

**Primary author(s) :** Prof. TER-GHAZARYAN, Gagik (Byurakan Astrophysical Observatory)

**Co-author(s) :** Dr. SHIDHANI, Saleh (Phys. Dept./College of Science, SQU, 123, Al-Khoud, OMAN); Ms. SARGSYAN, Lusine (Byurakan Astrophysical Observatory)

**Presenter(s) :** Prof. TER-GHAZARYAN, Gagik (Byurakan Astrophysical Observatory)

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