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The Neutrino Pre-Radiation Times of 234 AGN Black Holes

Abstract content

In the recent framework of 'microscopic' extension of the phenomenological black hole models (Ter-Kazarian, G.T. 2001, J. Phys. Soc. Jpn., Suppl., B 70, 84) we address the neutrino 'pre-radiation time' (PRT) of black holes. This implies the lapse of time from black hole's birth till radiation of an extremely high energy neutrinos. The 'microscopic theory' of BHs explores the most important processes of rearrangement of vacuum state and a spontaneous breaking of gauge symmetry in gravity at huge energies. For post-PRT lifetime, the black hole no longer holds as a region of spacetime that cannot communicate with the external universe. We infer a mass accretion rate onto central BH, and, further, calculate the resulting PRT versus bolometric luminosity due to accretion onto black hole. We estimate the PRTs of probable 234 AGN black holes, with the well-determined masses and bolometric luminosities collected from the literature. The derived PRTs for the 60 AGN black holes are longer than the age of the universe (˜ 13.7 Gyr) favored today. At present, some among remaining 174 BHs, therefore, may radiate EHE neutrinos which are of vital importance of the Z-burst scenario of origin of EHE Cosmic Rays.

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

Summary

Reference

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