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Energy Extraction and Particle Acceleration Around Rotating Black Hole in Horava-Lifshitz Gravity

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Penrose process on rotational energy extraction of the black hole (BH) in the original non-projectable Horava-Lifshitz gravity is studied. The strong dependence of the extracted energy from the special range of parameters of the Horava-Lifshitz gravity, such as parameter Λ_W and specific angular momentum a has been found. Particle acceleration near the rotating BH in Horava-Lifshitz gravity has been studied. It is shown that the fundamental parameter of the Horava-Lifshitz gravity can impose limitation on the the energy of the accelerating particles preventing them from the infinite value.

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