

Properties of particles in the ergosphere of black holes

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Abstract

© 2016 The Authors, published by EDP Sciences. A new feature of the rotating black holes is the existence in their ergosphere of trajectories of particles with negative and zero energies. Here we analyze general properties of such trajectories comparing them with usual trajectories of particles with positive energy. A comparison with the situation in rotating coordinate frame in Minkowski space-time is made. The possibility of the unbounded growth of the energy of two colliding particles in the centre of mass frame in the ergosphere is analysed.

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