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Neutrino Spin Effects in Gravitational Scattering

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We study spin oscillations of neutrinos scattering off of a rotating black hole surrounded by a thick magnetized accretion disk. Neutrino spin precession is caused by the interactions of the neutrino magnetic moment with the toroidal and poloidal magnetic fields in the disk. We briefly discuss the findings from our numerical simulations and their applications for the observations of astrophysical neutrinos.

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