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Particle and Wave Behavior around a Black Hole Pierced by a Cosmic String DONAL HANLON, DEBORAH KONKOWSKI, US Naval Academy — String theory admits the existence of cosmic strings. Here we consider a Schwarzschild black hole pierced by a cosmic string. The behavior of massive and massless particles and scalar waves are analyzed; that is, timelike and null geodesics are considered and the relativistic Klein-Gordon equation is solved. In the equatorial plane of the black hole (perpendicular to the cosmic string) light bending and perihelion precession are calculated. The singularity structure of the spacetime is analyzed.

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