Seventeenth Marcel Grossmann Meeting



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Electromagnetic field of a charged particle, asymptotically approaching Schwarzschild black hole

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The electromagnetic field of a particle moving in the vicinity of a Schwarzschild black hole is calculated. The energy emitted by the particle is calculated using the multipole expansion approach. The particle is considered as it approaches the event horizon of the black hole. The electromagnetic field of this particle is calculated in the limit of the event horizon approach. It is shown that the electromagnetic field in this case tends to be spherically symmetric. The astrophysical applications of the results obtained are discussed.

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