THE METHOD OF VIRTUAL QUANTA AND GRAVITATIONAL RADIATION*

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Abstract. We extend the Weizsäcker-Williams method to the domain of gravitational encounters and correlate collision problems with the corresponding interaction of gravitational radiation. To an ultra-relativistic test particle the field of a Schwarzschild mass appears as a pulse of gravitational plane waves. We consider the scattering of each Fourier component, virtual quanta, by the Newtonian-type field of the test body. The scattered flux at infinity gives us the radiative loss of gravitational energy by a rapidly moving particle.

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