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Physics & Astronomy Building (PAB) 4-330

Recent progress on gravitational bremsstrahlung from transplanckian-energy collisions

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Computing gravitational bremsstrahlung from ultra-relativistic collisions has long been a challenging problem both analytically and numerically. I will report on progress made on this issue in the last couple of years and show how a purely classical treatment and a completely different S-matrix approach precisely agree (in the appropriate limit for the latter) to leading order in the gravitational deflection angle. I will also comment on a recent claim by Dvali et al. on the total graviton multiplicity in such collisions and end up with presenting some open problems.