



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Null states and soft theorems

Shamik Banerjee

(IOP, Bhubaneswar)

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Recently a beautiful relation between soft theorem and Ward identity for infinite dimensional asymptotic symmetries. We show that at least in higher than four dimensions this relation implies the existence of null states built out of soft photon and gravitons operators. By null state we mean some operator which decouples from the S-matrix. This gives non-trivial constraints on S-matrices involving soft-particles.