

**Global regularity for Einstein-Klein-Gordon system with  $U(1) \times \mathbb{R}$  isometry group**

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In this paper we prove the global regularity of the 3+1 dimensional Einstein-Klein Gordon system with a  $U(1) \times \mathbb{R}$  isometry group. We reduce the Cauchy problem of the Einstein-Klein Gordon system to a 2+1 dimensional system. We prove that the energy of this system cannot concentrate near the first possible singularity, and hence is small. Then, we show that the global regularity holds for the reduced 2+1 system with initial data of small energy.