Wave models with structural properties of the time-dependent potential

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Abstract:

The aim of this talk is to apply C^m theory and stabilization condition for Klein-Gordon equation with non-effective time-dependent potential. The main goal is to generalize the paper [4] where the authors proved energy conservation dealing with "very slow oscillations" (according to the classification of Reissig and Yagdjian [2] and [3]) in the time-dependent potential. We are interested in the behavior of the energy as $t \to \infty$ for the coefficients bearing "very fast oscillations". Indeed, the energy has the same asymptotic behavior like in [4] considering very fast oscillations in the potential term under C^m properties and stabilization condition. Basically we perform a change of variable transforming the Klein-Gordon time-dependent problem into a damped wave time-depending problem and apply the technique are presented in the paper [1].

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