Cornell University Library

We gratefully acknowledge
supporting institutions

arXiv.org > math > arXiv:1204.3038

Search or Article-id

(Help | Advanced search)

All papers   Go!

Mathematics > Analysis of PDEs

On Control Of Sobolev Norms For Some Semilinear Wave Equations With Localized Data

Tristan Roy

(Submitted on 13 Apr 2012)

We establish new bounds of the Sobolev norms of solutions of semilinear wave equations for data lying in the Hs, s<1, closure of compactly supported data inside a ball of radius R, with R a fixed and positive number. In order to do that we perform an analysis in the neighborhood of the cone, using an almost Shatah-Struwe estimate, an almost conservation law and some estimates for localized functions: this allows to prove a decay estimate and establish a low frequency estimate of the position of the solution. Then, in order to establish a high frequency estimate of the position and an estimate of the velocity, we use this decay estimate and another almost conservation law.

Comments:	22 pages
Subjects:	**Analysis of PDEs (math.AP)**
Cite as:	**arXiv:1204.3038v1** [math.AP]

Submission history

From: Tristan Roy [view email]

[v1] Fri, 13 Apr 2012 16:20:41 GMT (19kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.