Cornell University Library

We gratefully acknowledge support from the Simons Foundation and member institutions

arXiv.org > math > arXiv:1206.0835

Search or Article-id

(Help | Advanced search)

All papers | Go!

Mathematics > Analysis of PDEs

Schrodinger Equation on homogeneous trees

Alaa Jamal Eddine (MAPMO)

(Submitted on 5 Jun 2012)

Let T be a homogeneous tree and L the Laplace operator on T. We consider the semilinear Schrodinger equation associated to L with a power-like nonlinearity F of degree d. We first obtain dispersive estimates and Strichartz estimates with no admissibility conditions. We next deduce global well-posedness for small L2 data with no gauge invariance assumption on the nonlinearity F. On the other hand if F is gauge invariant, L2 conservation leads to global well-posedness for arbitrary L2 data. Notice that, in contrast with the Euclidean case, these global well-posedness results hold with no restriction on d > 1. We finally prove scattering for small L2 data, with no gauge invariance assumption.

Comments:	14 pages, 1 figure
Subjects:	**Analysis of PDEs (math.AP)**
Cite as:	**arXiv:1206.0835** [math.AP]
	(or **arXiv:1206.0835v1** [math.AP] for this version)

Submission history

From: Alaa Jamal Eddine [view email]
[v1] Tue, 5 Jun 2012 07:56:19 GMT (28kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.

Bookmark(what is this?)