

Cornell University Library We gratefully acknowledge support from the Simons Foundation and member institutions

(Help | Advanced search)

Search or Article-id

arXiv.org > math > arXiv:1107.3994

Mathematics > Analysis of PDEs

The Burgers equation and the Korteweg-de Vries equation with quadratic nonlinearity

Martin Kohlmann

(Submitted on 20 Jul 2011 (v1), last revised 11 Apr 2012 (this version, v2))

We study generalized variants of the Burgers equation and the KdV equation on the circle. The main goal of the paper is to show that both extensions can be recast as geodesic equations on a suitable diffeomorphism group of the circle and the corresponding Bott-Virasoro group respectively. As a consequence we obtain that the initial value problem for the Burgers equation with an additional quadratic term is well-posed on a scale of Sobolev spaces on the circle.

Comments:	Withdrawn
Subjects:	Analysis of PDEs (math.AP)
MSC classes:	58D05, 35Q53, 35G25
Cite as:	arXiv:1107.3994 [math.AP]
	(or arXiv:1107.3994v2 [math.AP] for this version)

Submission history

From: Martin Kohlmann [view email] [v1] Wed, 20 Jul 2011 14:57:54 GMT (8kb) [v2] Wed, 11 Apr 2012 15:05:13 GMT (0kb,l)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.

All papers 🚽 Go
Download: • Source
Current browse context: math.AP < prev next > new recent 1107
Change to browse by: math
References & Citations NASA ADS
Bookmark(what is this?)