

Accepted Manuscript

Generalized solutions of the multidimensional stochastic Burgers equation

P. Catuogno, J.F. Colombeau, C. Olivera

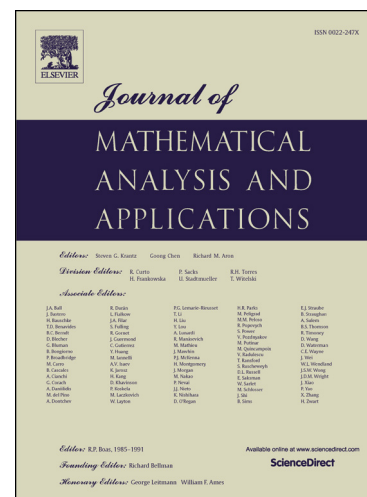
PII: S0022-247X(18)30367-6
DOI: <https://doi.org/10.1016/j.jmaa.2018.04.060>
Reference: YJMAA 22214

To appear in: *Journal of Mathematical Analysis and Applications*

Received date: 1 February 2016

Please cite this article in press as: P. Catuogno et al., Generalized solutions of the multidimensional stochastic Burgers equation, *J. Math. Anal. Appl.* (2018), <https://doi.org/10.1016/j.jmaa.2018.04.060>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Generalized solutions of the multidimensional stochastic Burgers equation.

P. Catuogno*, J.F. Colombeau †, C. Olivera‡

Key words: Stochastic Burgers equation, Generalized functions, Multiplication of distributions, Generalized solutions.

MSC2000 subject classification: 60H15, 35R60, 46F99.

Abstract

We introduce a new concepts of weak solution for the conservative stochastic Burgers equation in any dimension. The definition is based on weak solution concepts introduced by various authors in order to make sense of equations which do not solutions in the sense of distributions. In one dimension the solution reduces to the classical distributional solution of the 1-D stochastic Burgers equation.

1 Introduction

The aim of this paper is to study the existence of solution to the multidimensional stochastic Burgers equation in \mathbb{R}^d of the following form:

*Departamento de Matemática, Universidade Estadual de Campinas, Brazil. E-mail: pedrojc@ime.unicamp.br.

†Institut Fourier, Université de Grenoble., France. E-mail: jf.colombeau@wanadoo.fr.

‡Departamento de Matemática, Universidade Estadual de Campinas, Brazil. E-mail: colivera@ime.unicamp.br.

Download English Version:

<https://daneshyari.com/en/article/8899588>

Download Persian Version:

<https://daneshyari.com/article/8899588>

[Daneshyari.com](https://daneshyari.com)