



Advances in Mathematical Physics

Special Issue on
**Recent Advances in Symmetry Analysis and Exact
Solutions in Nonlinear Mathematical Physics**

CALL FOR PAPERS

Partial differential equations are used to describe a wide variety of physical phenomena such as fluid dynamics, plasma physics, solid mechanics, and quantum field theory that arise in physics. Many of these equations are nonlinear and, in general, these equations are often very difficult to solve explicitly. Many systematic methods are usually employed to study the nonlinear equations: these include the generalized symmetry method, the Painlevé analysis, the inverse scattering method, the Bäcklund transformation method, the conservation law method, the Cole-Hopf transformation, and the Hirota bilinear method.

Constructing exact solutions, in particular travelling wave solutions, of nonlinear equations plays an important role in soliton theory. Several important direct methods have been developed for obtaining travelling wave solutions to nonlinear partial differential equations such as the inverse scattering method, the Tanh-function method, the extended Tanh-function method, the G'/G method, the simplest method, and the modified simplest method.

We invite authors to present original research articles as well as review articles. This special issue is devoted to obtain exact solutions of nonlinear partial differential equations arising in physics.

Potential topics include, but are not limited to:

- ▶ Methods for obtaining solutions of partial differential equations
- ▶ Conservation Laws
- ▶ General methods for obtaining solutions of ordinary differential equations
- ▶ Travelling wave solutions
- ▶ Novel applications in physics

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/amp/esnm/>.

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m.bruzon@uca.es

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masood.khalique@nwu.ac.za

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marialuz.gandarias@uca.es

Rita Tracina, Università di Catania,
Catania, Italy
tracina@dmi.unict.it

Mariano Torrisi, Università di Catania,
Catania, Italy
torrisi@dmi.unict.it

Manuscript Due

Friday, 23 September 2016

First Round of Reviews

Friday, 16 December 2016

Publication Date

Friday, 10 February 2017