SPECIAL ISSUE on
Blow-up Phenomena in Nonlinear Equations of Mathematical Physics

GUEST EDITOR

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DESCRIPTION

An important branch in the theory of evolution equations is the study of unbounded solutions, a phenomenon known as blow-up behavior (physical terminology). Evolution problems having unbounded solutions are not solvable globally in time. Namely, the solutions grow without bound in finite time intervals. The blow-up effect occurs in many interesting physical phenomena. For instance, when a sea wave tumbles to the shore, when a nuclear bomb explodes, or when a computer breaks down due to electrical breakdown.

The aim of this special issue of *Demonstratio Mathematica* (IF2022: 2.0) is to collect excellent and original reserach articles related to global-in-time solvability and blow-up for a finite time of initial-value and initial-boundary-value problems for nonlinear equations arising in mathematical physics. Submission topics may include, but are not limited to

- Blow-up for parabolic equations
- Blow-up for hyperbolic equations
- Critical exponents for semi-linear equations
- Nonexistence for nonlinear evolution inequalities
- life-span estimates
- Nonlinear Schrödinger equations
- Nonlinear Sobolev-type equations
- Elliptic equations and inequalities
- Liouville-type theorems
- Fractional (in time or in space) evolution equations
- Nonlinear evolution equations in Riemannian manifolds
- Computation of the numerical blow-up time

Authors are requested to submit their full revised papers complying the general scope of the journal. The submitted papers will undergo the standard peer-review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

HOW TO SUBMIT

Before submission authors should carefully read the Instruction for Authors.

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's LATEX template. Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. **For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.**

All submissions to the Special Issue must be made electronically via online submission system Editorial Manager:

All manuscripts will undergo the standard peer-review process (single blind, at least two independent reviewers). When entering your submission via online submission system please choose the option "*Special Issue on Blow-up Phenomena in Nonlinear Equations of Mathematical Physics*.

Submission of a manuscript implies that the work described has not been published before and it is not under consideration for publication anywhere else.

The deadline for submissions is March 15, 2024, but individual papers will be reviewed and published online on an ongoing basis.

Contributors to the Special Issue will benefit from:

- critical peer-review
- no space constraints
- quick online publication upon completing the publishing process (**continuous publication model**)
- content converting to xml
- better visibility due to **Open Access** – free, unrestricted and permanent access to all the content
- **liberal policies on copyrights** (authors retain copyrights) and on self-archiving (no embargo periods)
- promotion of published papers to readers and citers
- **long-term preservation** – content archiving with Portico

We are looking forward to your submission!

In case of any questions please contact Editorial Office (demonstratio.editorial@degruyter.com)