DESCRIPTION

The Journal of Nuclear Materials publishes high quality papers in materials research for nuclear applications, primarily fission reactors, fusion reactors, and similar environments including radiation areas of charged particle accelerators. Both original research and critical review papers covering experimental, theoretical, and computational aspects of either fundamental or applied nature are welcome.

The breadth of the field is such that a wide range of processes and properties in the field of materials science and engineering is of interest to the readership, spanning atom-scale processes, microstructures, thermodynamics, mechanical properties, physical properties, and corrosion, for example.

The following list describes topics within the scope of the Journal.

Fission reactor materials, including fuels, cladding, core structures, pressure vessels, coolant interactions with materials, moderator and control components; fission product behavior. Materials aspects of the entire fuel cycle. Materials aspects of the actinides and their compounds. Performance of nuclear waste materials; immobilization of wastes. Fusion reactor materials, including first walls, blankets, insulators and magnets. Neutron and charged particle radiation effects in materials, including defects, transmutations, microstructures, phase changes and macroscopic properties. Interaction of plasmas, ion beams, electron beams and electromagnetic radiation with materials.

Please note: a manuscript must focus on materials science and engineering related to nuclear applications. Thus, all topics within nuclear science and engineering or materials science and engineering do not necessarily fall within the scope. Topics outside the scope of the Journal will not be considered, and potential alternative journals are indicated in brackets in the list below. Typical examples of topics which are out of scope for the Journal include:

(1) Topics in nuclear engineering and other areas not addressing materials, such as: Particle transport, cross-sections or isotope ratios (Radiation Physics and Chemistry; Annals of Nuclear Energy) Process engineering (Materials Science and Engineering A; Materials and Design) Thermal hydraulics (Nuclear engineering and design) Isotope separation processes (Nuclear Instrument and Methods B) Fusion reactor design and technology (Fusion Engineering & Design) Plasma physics (Physics Letters A)

(2) Materials topics not addressing nuclear applications, such as general studies in:
Physical properties including modeling and simulation (Materials Science and Engineering A, Materials Letters) Metallurgy (Journal of Alloys and Compounds; Materials Science and Engineering A) Corrosion (Corrosion Science) Welding and joining (Journal of Alloys and Compounds; Materials and Design) Ceramics (Journal of the European Ceramics Society; Ceramics international)

AUDIENCE
Materials scientists.

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GUIDE FOR AUTHORS

INTRODUCTION

The entire submission and review process for the *Journal of Nuclear Materials* is now handled electronically, which shortens publication times. All papers should be submitted electronically at [https://www.evise.com/profile/api/navigate/JNM](https://www.evise.com/profile/api/navigate/JNM).

Types of papers

The *Journal of Nuclear Materials* publishes original research papers, critical reviews, and short communications. Full length papers should report on completed original work rather than incremental research and may embody results of extensive laboratory or field, theoretical or computational investigation, or new interpretations of existing problems. The work must have permanent value and make an original contribution to the field.

Short Communications are short papers that present original and significant material for rapid dissemination. For example, a Short Communication may focus on a particular aspect of a problem or a new finding that is expected to have a significant impact. Short articles include, but are not limited to: discovery or development of new materials, cutting-edge experiments and theory, novelty in simulation and modeling, elucidation of mechanisms. As Short Communications are expected to have higher than average impact on the field rather than report on incremental research, they will receive prioritized and rapid publication.

*Journal of Nuclear Materials: Policy on Publishing Conference Contributions*

The *Journal of Nuclear Materials* publishes high quality articles in materials science and engineering related to nuclear applications. Articles must be timely, original, and fit the scope of the Journal. Presentations made at conferences, which fulfil these criteria, are therefore welcome. Selected articles from conferences may be grouped in a special issue, and this procedure is given below. Complete proceedings will not be published in *JNM* and requests for this will be forwarded to *Procedia - Materials Science* or *Physics Procedia*, Elsevier products targeted for [http://www.elsevierpublishingsolutions.com/procedia.asp](http://www.elsevierpublishingsolutions.com/procedia.asp). Sponsored supplements or themed issues in *JNM* with selected papers on a specific topic can be considered.

Requests to publish conference contributions in *JNM* should be made to one of the Editors. All requests will be coordinated through the Chairman of Editors. Upon receipt of a request, the Editors will determine whether the content complies with the scope, and whether the conference is of strategic importance for the *JNM* readership. Only key conferences and meetings in the nuclear materials field will be considered. When a positive decision is taken to publish a special issue related to a conference, the organizers will be offered the opportunity to appoint a Guest Editor responsible for the handling of the papers. Alternatively, the organizers may opt have the papers handled by the Editors of *JNM*. The organisers of the conference will inform the delegates that manuscripts based on presentations may be submitted to *JNM* in the regular manner using the publisher's electronic submission system, known as EES, where a special article type will be defined for the issue. A final submission date will be communicated to the delegates, and will normally be the end of the month in which the meeting is organised. The appointed Guest Editor will handle the manuscripts in the normal way through EES, i.e. arrange the review of the submitted manuscript by at least two independent reviewers. *This will be a critical step because submission of a large number of manuscripts in a relatively short time-span will put an extra load on the reviewers of JNM, who will still be handling regular submissions.* All accepted papers that are submitted in final form within an agreed timeframe, e.g., 6 months after the final submission date, will be collected in a single special issue. They will all be identified individually with a strapline "Presented at the [] Conference, place, date". The Guest Editor for the issue may be mentioned, e.g., "This issue was edited by []", at the organizers' request. Accepted papers that are not submitted within the agreed timeframe, e.g., 6 months after the final submission date, will continue to be handled in EES. However, they will be published in a regular issue, though still identified by the strapline "Presented at the [] Conference, place, date". Only in the case of large conferences can a second themed issue be compiled, and this will need to be decided by the journal production team on a case-by-case basis.

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