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## 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.

**Topics covered by JNM**

- 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; materials aspects of the 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 relevant to nuclear systems.

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AUDIENCE

Materials scientists.

IMPACT FACTOR

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Chemical Abstracts
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**Topics covered by JNM:** 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; materials aspects of the 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 relevant to nuclear systems.

**Topics NOT covered by JNM:** Topics in nuclear engineering and other areas not addressing materials. Materials topics not addressing nuclear applications such as general studies.

For a list of topics not included in the scope of Journal of Nuclear Materials, please visit the aims and scope here: https://www.journals.elsevier.com/journal-of-nuclear-materials.

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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.

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Short communications are limited to 3000 words and are not subdivided. The paper should contain an abstract, main body and references, and contain no more than 6 figures or tables, combined. The abstract is limited to 100 words. A guide to estimating paper length follows:

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Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

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If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

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Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'

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Examples:

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Reference to a chapter in an edited book:

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