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. **Topics NOT covered by JNM**

Topics in nuclear engineering and other areas not addressing materials, such as: Particle transport, cross-sections, shielding or isotope ratios (Radiation Physics and Chemistry; Annals of Nuclear Energy, Applied Radiation and Isotopes) Process engineering (Materials Science and Engineering A; Materials and Design) Leaching or chemical kinetics studies in aqueous, salt or other media (Hydrometallurgy; Chemical Engineering Science) Thermal hydraulics or properties of fluids (Nuclear Engineering and Design) Fission or fusion reactor design and technology (Nuclear Engineering and Design; Fusion Engineering & Design) Plasma physics (Physics Letters A) Materials topics not addressing nuclear applications, such as general studies in: Physical and chemical 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 via Editorial Manager.

Before submitting your paper, please ensure that your submission falls within the topics covered by the journal. A comprehensive list of topics that fall within the scope of the journal, and those that don’t, are listed below:

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.

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.

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Estimate equivalent number of words for figures/tables/eqns as:
- One column wide (7.5 cm) figures/tables: 20 words per cm height
- Two columns wide (15 cm) figures/tables: 40 words per cm height
- Equations: 20 words for each equation

Short communications will appear at the end of the topical sections in the journal table of contents. Each paper will begin with "Short Communication:" followed by the title.
Full Length Papers

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

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**Examples:**

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