

**The following transfer agreement must be signed and returned** to the APS Editorial Office, 1 Research Road, Ridge, NY 11961-2701 (Fax: 631-591-4141) **before the manuscript can be published.** For further information about APS policies and practices regarding copyright, see <http://publish.aps.org/copyrightFAQ.html>.

---

Article Title

---

Names of All Authors

### TRANSFER OF COPYRIGHT AGREEMENT

Copyright to the above-listed unpublished and original article submitted by the above author(s), the abstract forming part thereof, and any subsequent errata (collectively, the "Article") is hereby transferred to the American Physical Society (APS) for the full term thereof throughout the world, subject to the Author Rights (as hereinafter defined) and to acceptance of the Article for publication in a journal of APS. This transfer of copyright includes all material to be published as part of the Article (in any medium), including but not limited to tables, figures, graphs, movies, other multimedia files, and all supplemental materials. APS shall have the right to register copyright to the Article in its name as claimant, whether separately or as part of the journal issue or other medium in which the Article is included.

The author(s), and in the case of a Work Made For Hire, as defined in the U.S. Copyright Act, 17 U.S.C. §101, the employer named below, shall have the following rights (the "Author Rights"):

- (1) All proprietary rights other than copyright, such as patent rights.
- (2) The nonexclusive right, after publication by APS, to give permission to third parties to republish print versions of the Article or a translation thereof, or excerpts therefrom, without obtaining permission from APS, provided the APS-prepared version is not used for this purpose, the Article is not republished in another journal, and the third party does not charge a fee. If the APS version is used, or the third party republishes in a publication or product charging a fee for use, permission from APS must be obtained.
- (3) **The right to use all or part of the Article, including the APS-prepared version without revision or modification, on the author(s)' web home page or employer's website and to make copies of all or part of the Article, including the APS-prepared version without revision or modification, for the author(s)' and/or the employer's use for educational or research purposes.**
- (4) The right to post and update the Article on free-access e-print servers as long as files prepared and/or formatted by APS or its vendors are not used for that purpose. Any such posting made or updated after acceptance of the Article for publication shall include a link to the online abstract in the APS journal or to the entry page of the journal. If the author wishes the APS-prepared version to be used for an online posting other than on the author(s)' or employer's website, APS permission is required; if permission is granted, APS will provide the Article as it was published in the journal, and use will be subject to APS terms and conditions.
- (5) The right to make, and hold copyright in, works derived from the Article, as long as all of the following conditions are met: (a) at least one author of the derived work is an author of the Article; (b) the derived work includes at least ten (10) percent of new material not covered by APS's copyright in the Article; and (c) the derived work includes no more than fifty (50) percent of the text (including equations) of the Article. If these conditions are met, copyright in the derived work rests with the authors of that work, and APS (and its successors and assigns) will make no claim on that copyright. If these conditions are not met, explicit APS permission must be obtained. Nothing in this Section shall prevent APS (and its successors and assigns) from exercising its rights in the Article.
- (6) If the Article was prepared under a U.S. Government contract, the government shall have the rights under the copyright to the extent required by the contract.

All copies of part or all of the Article made under any of the Author Rights shall include the appropriate bibliographic citation and notice of the APS copyright.

By signing this Agreement, the author(s), and in the case of a Work Made For Hire, the employer, jointly and severally represent and warrant that the Article is original with the author(s) and does not infringe any copyright or violate any other right of any third parties, and that the Article has not been published elsewhere, and is not being considered for publication elsewhere in any form, except as provided herein. If each author's signature does not appear below, the signing author(s) represent that they sign this Agreement as authorized agents for and on behalf of all authors who have the legal right to transfer copyright and that this Agreement and authorization is made on behalf of the same. The signing author(s) (and, in the case of a Work Made For Hire, the signing employer) also represent and warrant that they have the full power to enter into this Agreement and to make the grants contained herein.

---

Author Signature(s)

---

Date

---

Name(s) (print)

If the Article has been prepared as a Work Made For Hire, the transfer should be signed by **both** the employee (above) **and** the employer (below):

---

Employer

---

Authorized Signature(s)

---

Name(s) (print)

---

Title

---

Date