From: esub-adm@aps.org

Subject: Manuscript es2019jul30_745 has been submitted to Physical Review Letters

Date: July 30, 2019 at 11:12 To: jhirsch@ucsd.edu

JNL: PRL

TEMPID: es2019jul30_745 RECVD: Tue Jul 30 14:12:06 2019

TITLE: Inconsistency of the conventional theory of superconductivity

AUTHORS: Hirsch, J. E. CORRA_LAST: Hirsch CORRA_FIRST: Jorge CORRA_MIDDLE: CORRA_OTHER:

EMAIL: jhirsch@ucsd.edu

ADDRESS: Dept. of Physics, 0319

University of California

San Diego

La Jolla, CA 92093 PHONE: (858)534-3931 FAX: 858-534-0173 ART_TYPE: Letter PREVIOUS_VERSION:

SEQUEL:

SECTION: L7-70C

TYPE: TH CONCEPTS:

Research Areas: Superconductivity (Primary)

NFIGS: 3 COLORFIGS: no LENGTHCHECK: REFCHECK:

REFEREES: Bertrand Halperin, Matthew Fisher, Steven Kivelson, Sudip Chakravarty, Nigel Goldenfeld, Dirk van der

Marel, Gabriel Kotliar, Gilbert Lonzarich

NOTES: Dear Editor,

Please see below why this paper belongs in PRL.

Thank you for considering this manuscript.

Sincerely, J. E. Hirsch

Justification:

This letter represents a major advance in the field of condensed matter physics. It proves that the conventional theory of superconductivity, considered valid for the last 60 years, is inconsistent, hence needs to be repaired or replaced. It is of broad interest because superconductivity is relevant to other fields of physics and applied physics.

I have recently submitted a 13 page article to Phys. Rev. B on this topic (BG14421). This letter summarizes in 3 pages the essential concept and proof. It is self-contained and accessible to a broad readership.

By submitting this manuscript, the corresponding author certifies:

- The paper represents original work of the listed authors.
- The manuscript as presented accurately reflects the scientific results.
- All of the authors made significant contributions to the concept, design, execution, or interpretation of the research study.
- All those who made significant contributions were offered the opportunity to be listed as authors.
- All of the listed authors are aware of and agree to the submission of this manuscript.

- The manuscript has not been published, and is not now and will not be under consideration by another journal while it is considered here.
- The authors have provided information to the editors about relevant unpublished manuscripts, including whether any version of this manuscript was previously considered by an APS journal.
- The authors accept the established procedures for selecting manuscripts for publication.