

PROCEEDINGS OF SPIE

Spintronics

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Editors

10–14 August 2008
San Diego, California, USA

Sponsored and Published by
SPIE

Volume 7036

Proceedings of SPIE, 0277-786X, v. 7036

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Author(s), "Title of Paper," in *Spintronics*, edited by Manijeh Razeghi, Henri-Jean M. Drouhin, Jean-Eric Wegrowe, Proceedings of SPIE Vol. 7036 (SPIE, Bellingham, WA, 2008) Article CID Number.

ISSN 0277-786X

ISBN 9780819472564

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

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Printed in the United States of America.

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Introduction

This 2008 Spintronics Conference in San Diego, CA (August 10–14) is the first edition of a whole Symposium devoted to solid-state spin physics inside the well known SPIE event. About 50 renowned scientists participated in this meeting, presenting 3 keynotes lectures and 42 invited talks. Presentations and discussions were a nice occasion to set the State of the Art in this rapidly evolving field of spintronics.

The conference covered many hot topics in spin-dependent metal physics or in spin-dependent semiconductor physics, ranging from fundamental aspects to applications. The keynote lectures of Profs. Michel Dyakonov, Masaaki Tanaka and Hideo Ohno, together with many other important contributions, allowed a large panorama to be drawn on semiconductor spintronics. Also, a large part of the conference was devoted to the spin transfer effects studied on various kinds of structures and observed with the help of new experimental techniques. The large number of original experimental and theoretical developments presented at this meeting confirms the impression of rapid and fruitful progress in this new field of investigation.

Overall, the conference was an invaluable opportunity for open exchange and stimulating discussions in a friendly atmosphere. This proceedings volume includes a significant number of these contributions, thus providing extremely useful references.

We are grateful to SPIE, the Organizing Committee, and the authors that have made the conference a success.

Manijeh Razeghi
Henri-Jean Drouhin
Jean-Eric Wegrowe