
EMS
PRESS

Hadamard Series in Mathematics

Edited by Jean-Benoît Bost (Université Paris-Saclay), Isabelle Gallagher (Université Paris Cité), Élisabeth Gassiat (Université Paris-Saclay), Patrick Gérard (Université Paris-Saclay, editor-in-chief)

Through the Hadamard Series in Mathematics, the Fondation Mathématique Jacques Hadamard (FMJH) seeks to showcase the exceptional academic resources available within the Paris-Saclay community and make them accessible to the widest possible audience. The series aims to cover the full breadth of mathematics while avoiding excessive specialization, ensuring that the books remain accessible to first-year Master's students in mathematics. At a time when artificial intelligence is having a profound impact on the development of science in general, and mathematics in particular, the FMJH is committed to maintaining the highest possible standards in the understanding of the fundamental principles of the discipline.

Published with the support of the Fondation Mathématique Jacques Hadamard

Yves Laszlo
Laurent Moonens
Thomas Mordant
Damien Simon

A Path to Advanced Algebra

Volume I

EMS PRESS

Authors

Yves Laszlo
Laboratoire de Mathématiques d'Orsay
Université Paris-Saclay
Building 307, rue Michel Magat
91405 Orsay, France

Email: yves.laszlo@universite-paris-saclay.fr

Laurent Moonens
Laboratoire de Mathématiques d'Orsay
Université Paris-Saclay
Building 307, rue Michel Magat
91405 Orsay, France

Email: laurent.moonens@universite-paris-saclay.fr

Thomas Mordant
Laboratoire de Mathématiques d'Orsay
Université Paris-Saclay
Building 307, rue Michel Magat
91405 Orsay, France

Email: thomas.mordant@universite-paris-saclay.fr

Damien Simon
Okinawa Institute of Science and Technology
1919-1 Tancha, Onna-son, Kunigami-gun
904-0495 Okinawa, Japan

Email: damien.simon@oist.jp

2020 Mathematics Subject Classification: Primary 16-01; Secondary 15-01, 13-01, 16D10, 16D25, 15A21, 15A18, 13F10, 12E05, 65F35, 54H99

Keywords: linear algebra, module theory and diagrams, matrix similarity, canonical forms, principal ideal domains, Noetherian rings and modules, eigenvalues, topology of matrix similarity classes

ISBN 978-3-98547-119-5, eISBN 978-3-98547-619-0, DOI 10.4171/HSM/1

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

Published by EMS Press, an imprint of the

European Mathematical Society – EMS – Publishing House GmbH
Institut für Mathematik
Technische Universität Berlin
Straße des 17. Juni 136
10623 Berlin, Germany

Email: info@ems.press

https://ems.press

© 2026 EMS Press

Typesetting: Alison Durham, Manchester, UK
Printed in Germany
♾ Printed on acid free paper