SATURN IN THE 21ST CENTURY

The Cassini Orbiter mission, launched in 1997, has transformed our understanding of the origins and workings of Saturn. Drawing from new discoveries and scientific insights from the mission, this book provides a detailed overview of the planet as revealed by Cassini. Chapters by eminent planetary scientists and researchers from across the world comprehensively review the current state of knowledge regarding Saturn's formation, interior, atmosphere, ionosphere, thermosphere, and magnetosphere. Specialized chapters discuss the planet's seasonal variability; the circulation of strong zonal winds; the constantly changing polar aurorae; and the Great Storm of 2010–2011, the most powerful convective storm ever witnessed by humankind. Documenting the latest research on the planet, from its formation to how it operates today, this is an essential reference for graduate students, researchers, and planetary scientists.

KEVIN H. BAINES is Senior Scientist at the Space Science and Engineering Center at the University of Wisconsin–Madison, and Principal Scientist at Caltech/Jet Propulsion Laboratory, Pasadena. He has over 35 years of experience in the development, planning, data analysis, and publication of science results from NASA and ESA planetary orbital missions. Specializing in the 3D nature of planetary atmospheres as gleaned from spacecraft-borne visual-to-near-infrared spectral imagers, he has been a NASA-selected scientist on the Cassini–Huygens and Galileo orbiter missions to Jupiter and Saturn and was the leader of the NASA science team on ESA's Venus Express orbiter mission.

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978-1-107-10677-2

[†]Reissued as a paperback

SATURN IN THE 21ST CENTURY

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CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

79 Anson Road, #06–04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781107106772
DOI: 10.1017/9781316227220

First published 2019

Printed in the United Kingdom by TJ International Ltd. Padstow Cornwall

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloging-in-Publication Data
Names: Baines, Kevin Hays, editor. | Flasar, F. Michael, editor. | Krupp, Norbert, editor. | Stallard, Tom, editor.
Title: Saturn in the 21st century / edited by Kevin H. Baines (University of Wisconsin, Madison), F. Michael Flasar (NASA-Goddard Space Flight Center), Norbert Krupp (Max Planck Institute for the Study of Societies, Cologne), Tom Stallard (University of Leicester).
Description: Cambridge : Cambridge University Press, 2019. |
Series: Cambridge planetary science series ; 20 | Includes bibliographical references and index.
Identifiers: LCCN 2017054700 | ISBN 9781107106772
Subjects: LCSH: Saturn (Planet) | Saturn (Planet) – Geology.
Classification: LCC QB671 .S2445 2018 | DDC 523.46–dc23
LC record available at https://lccn.loc.gov/2017054700

ISBN 978-1-107-10677-2 Hardback

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