



H.D. Betz, University of Munich, Germany; U. Schumann, Deutsches Zentrum fuer Luft- und Raumfahrt, Wessling, Germany; P. Laroche, ONERA, Chatillon, France (Eds.)

Lightning: Principles, Instruments and Applications

Review of Modern Lightning Research

Lightning represents a natural phenomenon of substantial interest. Due to its complex nature, research continues in many countries and reveals amazing results. Lightning is actively observed because of its relevance to Earth climate and air composition in addition to the classical aspects of related human fatalities and damage to forests, buildings, power lines, aircraft, structures and electronic devices. In this volume, the most important contemporary questions on lightning are addressed and analyzed under many experimental and theoretical aspects. Lightning detection techniques using ground-based and space-borne methods are described, along with network engineering and statistical analysis. Contributions detail research on atmospheric electricity, cloud physics, lightning physics, modeling of electrical storms and middle atmospheric events. Special phenomena such as triggered lightning and sprite observations are examined. Lightning-induced nitrogen oxides and their effects on atmospheric chemistry and climate are discussed. Each topic is presented by international experts in the field. Topics include: * air chemistry * convective storms * infrasound from lightning * lightning and climate change * lightning and precipitation *... *more on <http://springer.com/978-1-4020-9078-3>*

► A current understanding of lightning phenomena ► Experimental observations and theoretical explanations of lightning ► Importance of lightning in meteorology and atmospheric science ► The reader gets a comprehensive view about lightning effects, even on very complex topics which are not yet fully understood and remain subject to further research ► The level of questions discussed is high, but the contents should be understandable for non-experts

2009. XV, 641 p. 281 illus., 54 in color.
Hardcover

- **149,95 €**
- **\$229.00**
- **SFr. 249.00**
- **£136.50**

ISBN 978-1-4020-9078-3

Order Now!

Yes, please send me _____ copies

"Lightning: Principles, Instruments and Applications"
ISBN 978-1-4020-9078-3

Methods of Payment ☐ Check/Money Order enclosed ☐ AmEx ☐ MasterCard ☐ VISA

Card No. Exp. Date

Please send orders to:

Outside the Americas:

Springer
Order Department
PO Box 2485
Secaucus, NJ 07096-2485
USA

Springer
Customer Service Center GmbH
Haberstrasse 7
69126 Heidelberg
Germany

- **Call toll-free** 1-800-SPRINGER
8:30 am – 5:30 pm ET
- **Fax your order to** (201) 348-4505
- **Web** springer.com
- **Email** orders-ny@springer.com

- **Call:** + 49 (0) 6221-345-4301
- **Fax:** +49 (0) 6221-345-4229
- **Web:** springer.com
- **Email:** orders-hd-individuals@springer.com

Name	
Address	
Street Address	
(Sorry, we cannot deliver to P.O. boxes)	
City / State / ZIP-Code	
Country	
Telephone / Email	
Date ✕	Signature ✕

CA, MA, NJ, NY, and PA residents, please add sales tax. Canadian residents, please add 5% GST. Please add \$5.00 for shipping one book and \$1.00 for each additional book. Outside the US and Canada add \$10.00 for first book, \$5.00 for each additional book. All orders are processed upon receipt. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent. Remember, your 30-day return privilege is always guaranteed. Pre-publication pricing: Unless otherwise stated, pre-pub prices are valid through the end of the third month following publication, and therefore are subject to change.

All € and £ prices are net prices subject to local VAT, e.g. in Germany 7% VAT for books and 19% VAT for electronic products. Pre-publication pricing: Unless otherwise stated, pre-pub prices are valid through the end of the third month following publication, and therefore are subject to change. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. Please consult springer.com for information on postage.