



*materials*



*Special Issue Reprint*

## **Fracture Mechanics and Fatigue Damage of Materials and Structures**

[www.mdpi.com/books/reprint/7593](http://www.mdpi.com/books/reprint/7593)

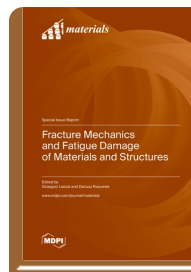
Edited by

Grzegorz Lesiuk

Dariusz Rozumek

ISBN 978-3-0365-8124-8 (Hardback)

ISBN 978-3-0365-8125-5 (PDF)



One of the most important aspects of the engineering assessment of the technical condition of structures and materials is the ability to assess the fatigue behavior of materials and structures. In addition, another important topic is the design of materials or structures that can resist fatigue and fracture. Modern science provides us with an increasing number of new materials, from superalloys of metals manufactured conventionally as well as via additive manufacturing to functionally advanced composites. Against this background, fundamental knowledge of the fatigue behavior and fracture mechanics of different material groups provides a convenient platform for communication between different interested groups and fields: from material science, numerical engineering and mathematical modeling to hybrid methods for fatigue life prediction. This Special Issue facilitates such an exchange of ideas on recent developments in the field of fatigue and fracture and is especially focused on fatigue crack growth analysis, the description of fatigue damage in metals and composites, probabilistic approaches and fracture mechanics analysis, as well as fatigue failure analysis and lifetime prediction.



Order Your Print Copy

You can order print copies at

[www.mdpi.com/books/reprint/7593](http://www.mdpi.com/books/reprint/7593)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.