



*metals*



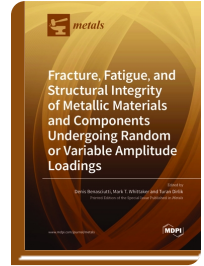
*Special Issue Reprint*

## **Fracture, Fatigue, and Structural Integrity of Metallic Materials and Components Undergoing Random or Variable Amplitude Loadings**

[www.mdpi.com/books/reprint/5801](http://www.mdpi.com/books/reprint/5801)

Edited by  
Denis Benasciutti  
Mark Whittaker  
Turan Dirlik

ISBN 978-3-0365-4692-6 (Hardback)  
ISBN 978-3-0365-4691-9 (PDF)



Most metallic components and structures are subjected, in service, to random or variable amplitude loadings. There are many examples: vehicles subjected to loadings and vibrations caused by road irregularity and engine, structures exposed to wind, off-shore platforms undergoing wave-loadings, and so on. Just like constant amplitude loadings, random and variable amplitude loadings can make fatigue cracks initiate and propagate, even up to catastrophic failures. Engineers faced with the problem of estimating the structural integrity and the fatigue strength of metallic structures, or their propensity to fracture, usually make use of theoretical, numerical, or experimental approaches. This reprint collects a series of recent scientific contributions aimed at providing an up-to-date overview of approaches and case studies—theoretical, numerical or experimental—on several topics in the field of fracture, fatigue strength, and the structural integrity of metallic components subjected to random or variable amplitude loadings.



Order Your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/5801](http://www.mdpi.com/books/reprint/5801)

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.