

were fired for 100 trillionth of a sec or 10^{-10} s generating huge powers. Another aspect which has to be taken into account is the efficiency of producing the 2 MJ of laser energy bearing in mind that it required 300 MJ of input energy to get to that level of laser energy. Simply put, the lasers used were very inefficient. So this result, although

significant as far as the proof of concept is concerned, scaling this to a functional fusion reactor is decades away. My personal belief is that the best way to achieve a workable fusion reactor would be to follow the Tokamak route, like the one presently being assembled near Toulouse in France and due ready for experimentation in 2025.

Book Review

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Advances in Microwave Processing for Engineering Materials

Edited by Amit Bansal, Hitesh Vasudev

CRC Press, ebook published 30 Sept 2022, ISBN 9781003248743, pages 226.

This text discusses recent research techniques in the field of microwave processing of engineering materials by utilizing microwave radiation in the form of microwave hybrid heating (MHH). It is useful for industrial and household applications including the joining of materials, casting of bulk metal alloy material, drilling of borosilicate glass materials, development of cladding of different materials for friction, wear, and corrosion.

The book:

- Discusses the development of high-temperature resistant materials using microwave processing
- Covers the latest research development in microwave processing in the field of healthcare i.e. bio-medical implants
- Highlights concepts of microwave heating in joining, cladding, and casting of metallic materials
- Explains mechanisms of failure of materials and protection in a comprehensive manner
- Provide readers the knowledge of microwave processing of materials in major thrust areas of engineering applications

This book extensively highlights the latest advances in the field of microwave processing for engineering materials. It will serve as an ideal reference text for graduate students and academic researchers in the fields of materials science, manufacturing engineering, industrial engineering, mechanical engineering, and production engineering.

Chapter 3 of the book entitled “Microwave Drilling in sub-wavelength diameters” is written by AMPERE member Prof. Eli Jerby, who is also serving in the scientific committee of AMPERE.

