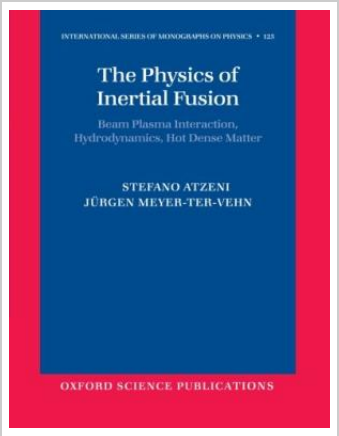

The Physics of Inertial Fusion: Beam Plasma Interaction, Hydrodynamics, Hot Dense Matter

By Stefano Atzeni, Jurgen Meyer-Ter-Vehn

Oxford University Press. Paperback. Book Condition: new. BRAND NEW PRINT ON DEMAND., The Physics of Inertial Fusion: Beam Plasma Interaction, Hydrodynamics, Hot Dense Matter, Stefano Atzeni, Jurgen Meyer-Ter-Vehn, This book is on inertial confinement fusion, an alternative way to produce electrical power from hydrogen fuel by using powerful lasers or particle beams. It involves the compression of tiny amounts (micrograms) of fuel to thousand times solid density and pressures otherwise existing only in the centre of stars. Thanks to advances in laser technology, it is now possible to produce such extreme states of matter in the laboratory. Recent developments have boosted laser intensities again with new possibilities for laser particle accelerators, laser nuclear physics, and fast ignition of fusion targets. This is a reference book for those working on beam plasma physics, be it in the context of fundamental research or applications to fusion energy or novel ultra-bright laser sources. The book combines quite different areas of physics: beam target interaction, dense plasmas, hydrodynamic implosion and instabilities, radiative energy transfer as well as fusion reactions. Particular attention is given to simple and useful modelling, including dimensional analysis and similarity solutions. Both authors have worked in this field for more than...

Reviews

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