Título: Physics Of Inertial Fusion: Beam Plasma Interaction, Hydrodynamics, Hot Dense Ma

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This book is on inertial confinement fusion, an alternative way to produce electrical power from hydogen fuel by using powerful lasers or particle beams. It involves the compression of tiny amounts (micrograms) of fuel to thousands times solid density and pressures otherwise existing only in the center 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 ultrabright laser sources. The Physics of Inertial Fusion 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 20 years. They want to address in particular those teaching this topic to students and all those interested in understanding the technical basis.