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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- History creation of a nuclear rocket engine reactor (NRER) -- Design of a NRER -- Methods of modeling tests -- Materials of the reactor core -- Radiation durability of NRE elements -- Corrosion of materials in a working environment -- Bearing ability of NRE elements -- Prospects of the NRER development for space.
Sommario/riassunto	The development of a nuclear rocket engine reactor (NRER ) is presented in this book. The working capacity of an active zone NRER under mechanical and thermal load, intensive neutron fluxes, high energy generation (up to 30 MBT/l) in a working medium (hydrogen) at temperatures up to 3100 K is displayed. Design principles and bearing capacity of reactors area discussed on the basis of simulation experiments and test data of a prototype reactor. Property data of dense constructional, porous thermal insulating and fuel materials like carbide and uranium carbide compounds in the temperatures interval 300 - 3000 K are presented. Technological aspects of strength and thermal strength resistance of materials are considered. The design procedure of possible emergency processes in the NRER is developed and risks for their origination are evaluated. Prospects of the NRER development for pilotless space devices and piloted interplanetary ships are viewed.