1. Record Nr. UNINA9910827184203321

Titolo	Cryogenics [[electronic resource]] : theory, processes and applications / / Allyson E. Hayes, editor
Pubbl/distr/stampa	Hauppauge, N.Y., : Nova Science Publishers, c2011
ISBN	1-61761-542-0
Edizione	[1st ed.]
Descrizione fisica	1 online resource (183 p.)
Collana	Physics research and technology Genetics--research and issues
Altri autori (Persone)	HayesAllyson E
Disciplina	621.5/9
Soggetti	Low temperatures Low temperature engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- CRYOGENICS: THEORY, PROCESSES AND APPLICATIONS -- CRYOGENICS: THEORY, PROCESSES AND APPLICATIONS -- LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA -- CONTENTS -- PREFACE -- Chapter 1 CONTROL OF THE SONIC BOOM GENERATED BY A FLYING VEHICLE BY MEANS OF A CRYOGENIC IMPACT ON THE FLOW PROCESS -- Introduction -- 1. Problem of Creating a Supersonic Passenger Plane -- 2. Physical Grounds of the Cryogenic Impact on the Flow -- 3. Objectives of Research -- 4. Test Conditions -- 4.1. Experimental Facility -- 4.2. Models and Technologies of Their Cooling -- 4.3. Method of Measurements and Data Processing -- 4.4. Method of Recalculaton of the Measured Results to Large Distances from the Model -- 5. Results and Discussion -- 5.1. Surface Cooling -- 5.2. Coolant Injection from the Surface -- 6. Applications -- References -- Chapter 2 LIQUID OXYGEN MAGNETOHYDRODYNAMICS -- 1. Abstract -- 2. Introduction -- 2.1. Magnetic Fluids -- 2.2. Liquid Oxygen -- 2.3. Previous Research -- 2.3.1. Magnetic fluid pumps -- 2.3.2. Magnetoviscosity -- 2.3.3. Magnetic fluid pipe flow -- 2.4. Current Test Parameters -- 3. Theoretical Model -- 4. Experimental Apparatus -- 5. Numerical Solution -- 6. Results and Discussion -- 6.1. Solenoid / Slug Optimization -- 6.2. Maximum Attainable Pressure Change -- 6.3. Hydrodynamic Breakdown -- 6.4. Determining Uncertainty -- 6.5. Geometric Dependence -- 7. Conclusions -- References -- Chapter 3