1. Record Nr. UNINA9910454238003321

Titolo	Thermal plasma torches [[electronic resource]] : design, characteristics, application / / edited by M.F. Zhukov and I.M. Zasypkin
Pubbl/distr/stampa	Cambridge, : Cambridge International Science Publishing, 2007
ISBN	1-280-73876-6 9786610738762 1-904602-81-9
Descrizione fisica	1 online resource (610 p.)
Altri autori (Persone)	ZhukovM. F ZasypkinI. M
Disciplina	621.48 621.48/4
Soggetti	High temperature plasmas Plasma chemistry Electronic books.
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 ansd index.
Nota di contenuto	1. Brief description of thermal plasma and electric heating of gas; 2. Electrophysical and aerodynamic processes in a plasma torch; 3. Mathematical methods of investigating arc discharges; 4. Modelling of processes in electric arc plasma torches; 5. Energy characteristics of the arc in different gases; 6. Heat exchange in the electric arc chamber of a linear plasma torch; 7. Direct current linear plasma torches; 8. Two-jet plasma torches; 9. Alternating current plasma torches using industrial frequency; 10. Near-electrode processes and methods of reducing electrode erosion; Plasma reactors ConclusionsReferences; Index
Sommario/riassunto	The results of experimental research of plasma torches are described. A simple classification of linear plasma torches is proposed. Engineering methods of processing experimental data are outlined together with the electrical and thermal characteristics of plasma torches of different design in criterial form. Special attention is paid to the problems of plasma torch stability to extend their operating life. The characteristics of individual types of the design of plasma torches

are discussed. The operating properties and description of plasma-chemical reactors and plasma torch reactors for var