1. Record Nr.   UNISA996197728003316

Titolo   ICCP 2006 : 2006 International Conference on Parallel Processing workshops : 14-18 August, 2006, Columbus, Ohio

Pubbl/distr/stampa   [Place of publication not identified], : IEEE Computer Society, 2006

ISBN   1-5090-9629-9

Disciplina   004/.35

Soggetti   Parallel processing (Electronic computers) - Distributed processing
Electronic data processing
Engineering & Applied Sciences
Computer Science

Lingua di pubblicazione   Inglese

Formato   Materiale a stampa

Livello bibliografico   Monografia

Note generali   Bibliographic Level Mode of Issuance: Monograph

Nota di contenuto   Workshop on Web Services-based Grid Applications (WSGA) -- Workshop on Parallel and Distributed Multimedia (PDM), the Workshop on Wireless and Sensor Networks (WSNet) -- 3rd International Workshop on Embedded Computing (EC-06) -- Workshop on Performance Evaluation of Networks for Parallel, Cluster and Grid Computing Systems (PEN-PCGCS) -- the 5th Workshop on Compile and Runtime Techniques for Parallel Computing, (CRTPC) -- 8th Workshop on High Performance Scientific and Engineering Computing (HPSEC-06).

2.	Record Nr.	UNINA9910350319403321
	Autore	Karkhin Victor A
	Titolo	Thermal Processes in Welding / / by Victor A. Karkhin
	Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
	ISBN	981-13-5965-2
	Edizione	[1st ed. 2019.]
	Descrizione fisica	1 online resource (XIX, 478 p. 284 illus.)
	Collana	Engineering Materials, , 1612-1317
	Disciplina	620.16
	Soggetti	Metals Manufactures Thermodynamics Heat engineering Heat - Transmission Mass transfer Metallic Materials Manufacturing, Machines, Tools, Processes Engineering Thermodynamics, Heat and Mass Transfer
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	Energy characteristics of welding heat sources -- Thermal properties of metals -- Physical fundamentals of heat transfer during welding -- Methods for solving problems of heat conduction in welding -- Temperature fields in fusion welding -- Temperature fields in pressure welding -- Temperature fields with a programmable input of heat -- Metal heat cycles during welding -- The melting and solidification of the base metal -- Heating and melting the filler metal -- Inverse heat conduction problem in welding -- Optimization of welding -- Microstructure and mechanical properties of the metal Prediction different zones weld thermal cycles in view.
	Sommario/riassunto	This book describes and systemizes analytical and numerical solutions for a broad range of instantaneous and continuous, stationary and moving, concentrated and distributed, 1D, 2D and 3D heat sources in semi-infinite bodies, thick plane layers, thin plates and cylinders under various boundary conditions. The analytical solutions were mainly

obtained by the superimposing principle for various parts of the proposed 1D, 2D and 3D heat sources and based on the assumption that only heat conduction plays a major role in the thermal analysis of welds. Other complex effects of heat transfer in weld phenomena are incorporated in the solutions by means of various geometrical and energetic parameters of the heat source. The book is divided into 13 chapters. Chapter 1 briefly reviews various welding processes and the energy characteristics of welding heat sources, while Chapter 2 covers the main thermophysical properties of the most commonly used alloys. Chapter 3 describes the physical fundamentals of heat conduction during welding, and Chapter 4 introduces several useful methods for solving the problem of heat conduction in welding. Chapters 5 and 6 focus on the derivation of analytical solutions for many types of heat sources in semi-infinite bodies, thick plane layers, thin plates and cylinders under various boundary conditions. The heat sources can be instantaneous or continuous, stationary or moving, concentrated or distributed (1D, 2D or 3D). In Chapter 7 the temperature field under programmed heat input (pulsed power sources and weaving sources) is analyzed. In turn, Chapters 8 and 9 cover the thermal cycle, melting and solidification of the base metal. Heating and melting of filler metal are considered in Chapter 10. Chapter 11 addresses the formulation and solution of inverse heat conduction problems using zero-, first- and second-order algorithms, while Chapter 12 focuses on applying the solutions developed here to the optimization of welding conditions. In addition, case studies confirm the usefulness and feasibility of the respective solutions. Lastly, Chapter 13 demonstrates the prediction of local microstructure and mechanical properties of welded joint metals, while taking into account their thermal cycle. The book is intended for all researches, welding engineers, mechanical design engineers, research engineers and postgraduate students who deal with problems such as microstructure modeling of welds, analysis of the mechanical properties of welded metals, weldability, residual stresses and distortions, optimization of welding and allied processes (prewelding heating, cladding, thermal cutting, additive technologies, etc.). It also offers a useful reference guide for software engineers who are interested in writing application software for simulating welding processes, microstructure modeling, residual stress analysis of welds, and for robotic-welding control systems.