Record Nr. UNINA9910780071703321 Autore Kroll Ehud <1956-> Titolo Innovative conceptual design: theory and application of parameter analysis / / Ehud Kroll, Sridhar S. Condoor, David G. Jansson [[electronic resource]] Cambridge:,: Cambridge University Press,, 2001 Pubbl/distr/stampa **ISBN** 1-107-11910-3 0-511-01928-9 1-282-38903-3 9786612389030 0-511-64284-9 0-511-15480-1 0-511-55687-X 0-511-61292-3 0-511-04940-4 1 online resource (xiv, 232 pages) : digital, PDF file(s) Descrizione fisica Disciplina 620/.0042 Soggetti Industrial design Engineering design Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 05 Oct 2015). Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover; Half-title; Title; Copyright; Dedication; Contents; Preface; 1 Introduction; 2 Need Identification and Analysis; 3 Need Identification and Analysis Case Study: Packing Factor of Sand in Electrical Fuses; 4 Introduction to Parameter Analysis; 5 Parameter Analysis Put to Work; 6 Conceptual Design Case Study: HVAC Airflow Sensor; 7 Conceptual Design Case Study: Cut-Edge Sensor for Flooring Removal: 8 Conceptual Design Case Study: Low-Cost Industrial Indexing Systems; 9 Conceptual Design Case Study: Equal-Channel-Angular-Extrusion Metalworking 10 Need Analysis and Conceptual Design Case Study: "Ball Mover"11 Technology Observation; 12 Conclusion; Index

Conceptual design, along with need identification and analysis, make

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up the initial stage of the design process. Need analysis transforms the often vague statement of a design task into a set of design requirements. Conceptual design encompasses the generation of concepts and integration into system-level solutions, leading to a relatively detailed design. This 2001 book is devoted to the crucial initial stage of engineering design. In particular, it focuses on parameter analysis, a methodology that leads the user through the design process, helping to identify critical issues (parameters) of the design and propose configuration-specific solutions. To illustrate the principles discussed, the authors present numerous examples and a variety of real-world case studies. The emphasis throughout is on innovation. This useful text will appeal to advanced undergraduate and graduate students, as well as practising engineers, architects, and product development managers.