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Altri autori (Persone)	BillautJean-Charles <1967-> MoukrimAziz SanlavilleEric
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Nota di contenuto	Flexibility and Robustness in Scheduling; Table of Contents; Preface; Chapter 1. Introduction to Flexibility and Robustness in Scheduling; 1.1. Scheduling problems; 1.1.1. Machine environments; 1.1.2. Characteristics of tasks; 1.1.3. Optimality criteria; 1.2. Background to the study; 1.3. Uncertainty management; 1.3.1. Sources of uncertainty; 1.3.2. Uncertainty of models; 1.3.3. Possible methods for problem solving; 1.3.3.1. Full solution process of a scheduling problem with uncertainties; 1.3.3.2. Proactive approach; 1.3.3.3. Proactive/reactive approach; 1.3.3.4. Reactive approach 1.4. Flexibility1.5. Robustness; 1.5.1. Flexibility as a robustness indicator; 1.5.2. Schedule stability (solution robustness); 1.5.3. Stability relatively to a performance criterion (quality robustness); 1.5.4. Respect of a fixed performance threshold; 1.5.5. Deviation measures with respect to the optimum; 1.5.6. Sensitivity and robustness; 1.6. Bibliography; Chapter 2. Robustness in Operations Research and Decision Aiding; 2.1. Overview; 2.1.1. Robust in OR-DA with meaning?;

2.1.2. Why the concern for robustness?; 2.1.3. Plan of the chapter
2.2. Where do "vague approximations" and "zones of ignorance" come from? - the concept of version2.2.1. Sources of inaccurate determination, uncertainty and imprecision; 2.2.2. DAP formulation: the concept of version; 2.3. Defining some currently used terms; 2.3.1. Procedures, results and methods; 2.3.2. Two types of procedures and methods; 2.3.3. Conclusions relative to a set R of results; 2.4. How to take the robustness concern into consideration; 2.4.1. What must be robust?; 2.4.2. What are the conditions for validating robustness? 2.4.3. How can we define the set of pairs of procedures and versions to take into account?2.5. Conclusion; 2.6. Bibliography; Chapter 3. The Robustness of Multi-Purpose Machines Workshop Configuration; 3.1. Introduction; 3.2. Problem presentation; 3.2.1. Modeling the workshop; 3.2.1.1. Production resources; 3.2.1.2. Modeling the workshop demand; 3.2.2. Modeling disturbances on the data; 3.2.3. Performance versus robustness: load balance and stability radius; 3.2.3.1. Performance criterion for a configuration; 3.2.3.2. Robustness; 3.3. Performance measurement
3.3.1. Stage one: minimizing the maximum completion time3.3.2. Computing a production plan minimizing machine workload; 3.3.3. The particular case of uniform machines; 3.4. Robustness evaluation; 3.4.1. Finding the demands for which the production plan is balanced; 3.4.2. Stability radius; 3.4.3. Graphic representation; 3.5. Extension: reconfiguration problem; 3.5.1. Consequence of adding a qualification to the matrix Q; 3.5.2. Theoretical example; 3.5.3. Industrial example; 3.6. Conclusion and perspectives; 3.7. Bibliography; Chapter 4. Sensitivity Analysis for One and m Machines
4.1. Sensitivity analysis

Sommario/riassunto

Scheduling is a broad research area and scheduling problems arise from several application domains (production systems, logistic, computer science, etc.). Solving scheduling problems requires tools of combinatorial optimization, exact or approximated algorithms. Flexibility is at the frontier between predictive deterministic approaches and reactive or ?on-line? approaches. The purpose of flexibility is to provide one or more solutions adapted to the context of the application in order to provide the ideal solution. This book focuses on the integration of flexibility and robustness consideratio