

Dubois, Didier; Fargier, Helene; Fortemps, Philippe

Fuzzy scheduling: Modelling flexible constraints vs. coping with incomplete knowledge.
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Summary: An overview of some fuzzy set-based approaches to scheduling is proposed, emphasizing two distinct uses of fuzzy sets: representing preference profiles and modelling uncertainty distributions. The first setting leads to a valued, non-compensatory generalization of constraint-directed scheduling. The other setting yields a possibility-theoretic counterpart of PERT, where probability distributions of activity durations are changed into possibility distributions, for the purpose of modelling incomplete information. It is pointed out that a special case of the latter, interval-valued PERT, is a difficult, ill-known problem, regarding the determination of critical activities, latest starting times and floats. Lastly when flexible constraints and uncertain processing times are to be jointly considered, the use of possibilistic decision theory leads to the computation of robust schedules.

MSC:

[90B35](#) Deterministic scheduling theory in operations research

Cited in **48** Documents

[90C70](#) Fuzzy and other nonstochastic uncertainty mathematical programming

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Scheduling; constraint propagation; Uncertainty; fuzzy intervals; possibility; theory

Software:

[FULPAL](#)

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