

## عنوان مقاله:

ROBUST RESOURCE-CONSTRAINED PROJECT SCHEDULING WITH UNCERTAIN-BUT-BOUNDED ACTIVITY DURATIONS AND CASH FLOWS I. A NEW SAMPLING-BASED HYBRID PRIMARY-SECONDARY CRITERIA APPROACH

## محل انتشار:

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## خلاصه مقاله:

This paper, we presents a new primary-secondary-criteria scheduling model for resource-constrained project scheduling problem (RCPSP) with uncertain activity durations (UD) and cash flows (UC). The RCPSP-UD-UC approach producing a “robust” resource-feasible schedule immunized against uncertainties in the activity durations and which is on the sampling-based scenarios may be evaluated from a cost-oriented point of view. In the presented approach, it is assumed that each activity-duration and each cash flow value is an uncertain-but-bounded parameter, which is characterized by its optimistic and pessimistic estimations. The evaluation of a given robust schedule is based on the investigation of variability of the makespan as a primary and the net present value (NPV) as secondary criterion on the set of randomly generated scenarios given by a sampling-on-sampling-like process. Theoretically, the robust schedule-searching algorithm is formulated as a mixed integer linear programming problem, which is combined with a cost-oriented sampling-based approximation phase. In order to illustrate the essence of the proposed approach we present detailed computational results for a larger and very challenging project instance. A problem specific fast .and efficient harmony search algorithm for large uncertain problems will be presented in a forthcoming paper

## کلمات کلیدی:

project scheduling; scheduling under uncertainty; robustness

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1831469>

