Basic Approximations to an Adaptive Resource Allocation Technique to Stochastic Multimodal Projects

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Abstract

This paper presents three basic approximations developed to solve the Adaptive Stochastic Multimodal Resource Allocation Problem. Two of them are based on the DP model introduced in earlier papers ([23], [24]). The other one uses NLP to solve this problem. The approximations developed consist in considering the Work Content of some or all the activities of the project as represented by their mean values. These approximations were applied to a set of examples, and results were obtained and commented. As expected, running times were reduced, compared to the original model, but the total cost was underestimated, due to the use of means instead of the complete distribution.

Key Words: Activity Networks, Resource Allocation, Dynamic Programming