系统工程

C2组织决策实体配置问题建模与求解方法

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摘要：

针对指挥控制组织设计中决策实体的配置问题，提出了一种问题的配置模型及其求解方法。在分析传统决策实体配置模型不足的基础上，采用了作战任务执行时间来测度决策实体工作负载，建立了以全部决策实体工作负载的均方根(root mean square, RMS)最小为目标函数的问题数学模型。提出了基于最小RMS合并规则的层次聚类方法的问题求解思路，给出了该方法的具体步骤和流程。最后结合联合作战仿真算例中一个任务平台的调度方案，验证了所提方法的有效性和优越性。

关键词： 运筹学　指挥控制组织　决策实体配置　层次聚类方法　均方根

Model and solving method for collocating problem of decision makers in C2 organization

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Abstract:

To solve the collocating problem of decision makers (DM) in the design of command and control (C2) organization, a collocating model and its solving algorithm are presented. On the basis of analyzing the scarcity of traditional collocating models, the processing time of an operational task is used to measure DM's workload, and a mathematical model whose objective function features the munimization of root mean square (RMS) value of all the DM's workload is built. Then a hierarchical clustering algorithm based on min RMS merge rule for solving the problem is introduced, and the detailed steps and flow of this algorithm are offered. Finally, the validity and superiority of this algorithm are illuminated by a scheduling scheme of a task platform which is in a case of a joint campaign.

Keywords: operation research   command and control (C2) organization   decision makers (DM) collocating   hierarchical clustering algorithm   root mean square (RMS)

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