

系统工程

基于作战效能的战场电磁环境分级描述方法

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摘要:

对电磁环境分类分级是对电磁环境的基本描述方法,是认识电磁环境的基础,因此建立一套对其描述的方法,对武器研制、部队训练具有重大意义。针对现有战场电磁环境分级描述方法的不足,提出了一种基于武器装备作战效能的战场环境分级描述方法,利用复杂环境下武器作战效能的变化对电磁环境进行分级描述,从武器对环境“感受”的角度描述电磁环境。首先对战场电磁环境的定义和内涵进行分析,接着介绍基于武器效能变化的战场电磁环境分级描述方法,最后给出详细的仿真算例。与现有描述方法的对比表明该方法可控性强,可以体现出战场电磁环境的相对性。

关键词: 复杂战场环境 电磁环境描述分级方法 武器装备作战效能 指标聚合

Novel battlefield electromagnetic environment classification method based on combat efficacy of weapon systems

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Abstract:

As a basic description approach of electromagnetic environment (EME), EME classification is regarded as the foundation to understand it. Accordingly, the constitution of a practical description approach of EME could be an event of significance for weapon development and army training. A description approach of EME based on the combat efficacy of weapon systems (CEWS) is proposed to overcome the shortcomings of conventional EME classification methods. This novel approach could reveal the EME recognized by weapon itself under the classification on the basis of CEWS degrading. The definition and meaning of battlefield EME is analyzed first, the novel EME classification approach based on CEWS changing is then introduced, and a representative scenario is elaborated in comparison with conventional methods. Simulation shows that this novel method can adequately reveal the relativity and controllability of EME.

Keywords: complex battlefield environment electromagnetic environment classification method combat efficacy of weapon system index aggregation

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