点击复制

❖ 工具/TOOLS

引用本文的文章/References

下载 PDF/Download PDF(654KB)

立即打印本文/Print Now

推荐给朋友/Recommend

基于杀伤区的超声速巡航导弹对抗PAC3拦截弹突防

Title: The Analysis on Penetration Effectiveness of Supersonic Cruise Missile Countering Interceptor Based on Killing Zone

作者: 范玉珠[1; 2]; 张为华[2]

1 63620部队，兰州 732750;2 国防科学技术大学航天与材料工程学院，长沙 410073

Author(s): FAN Yuzhu[1; 2]; ZHANG Weihua[2]

1 No.63620 Unit, Lanzhou 732750, China; 2 College of Aerospace and Material Engineering, National University of Defense Technology, Changsha 410073, China

摘要: 建立超声速巡航导弹设计参数与突防能力间定量关系成为突防能力分析的难点和关键环节。传统导弹突防能力量化分析采用概率参量，这一方法已难以满足超声速巡航导弹总体方案论证中的突防能力分析需求。文中从突防对抗的机理出发，提出采用地空导弹杀伤区概念定量描述超声速巡航导弹对抗防御系统 PAC^{3}拦截弹的突防效能。在此基础上，结合地空导弹杀伤区计算原理，建立了超声速巡航导弹对抗PAC^{3}拦截弹的突防效能指标量化计算模型和流程。仿真算例表明，飞行高度和飞行速度等性能参数是影响杀伤区大小的主要因素，同时

Abstract: Identify the quantificational relationship between supersonic cruise missile performance parameters and penetration effectiveness is a key part in analyzing penetration effectiveness. Traditional statistic penetration effectiveness analyzing measures have difficulty in satisfying the requirements of penetration effectiveness analysis in integrated scheme demonstration. Based on penetration mechanism, it was proposed to describe the SCM penetration by kill zone concepts of air missile. The mathematical model and programmer for penetration effectiveness indexes of supersonic cruise missile countering interceptor were built based on the computational model of air missile system kill ranges mathematical principle. Based on the simulation results, it is concluded that the method for penetration analysis proposed in this paper is capable of fully meeting the requirements for SCM scheme demonstration.

参考文献/REFERENCES

[1]D L McCraith. A computer aid for ballistic missile defense analysis,ADA727045[R].

[2]L J Levy. Role of confidence in T&E of strategic defense systems,ADA406504[R].

[3]S J Song. Probability models for assessing the value of battle damage assessment in the defense against sequential theater missile attacks,ADA311138[R].

[4]M S Johnston. Analysis of the survibability of land attack missiles (LAM),ADA387374[R].

[5]D D Diehl. How to optimize joint theater ballistic missile defense,ADA422226[R].

[6]张毅，何念念，马清华·防空导弹防御系统中的TBM突防能力研究[J]·飞行力学,2001, 19(3): 49-55.

[7]齐照辉·战略导弹突防效能评估方法及其应用研究[D]·长沙: 国防科学技术大学,2006.

[8]徐品高·防空导弹武器系统的杀伤区、作战区、拦截区和发射区[J]·现代防御技术,1994(1)：1-11.

[9]范玉珠，张为华，谢道成·巡航弹飞行环境对跟踪照射雷达探测性能影响仿真分析[J]·系统仿真学报，2008, 20(15): 3927-3930.

[10]ZK（#张有济·战术导弹飞行力学设计（上、下）[M]·北京: 宇航出版社，1998.

[11]聂勃库也夫·地空导弹射击[M]·空军第五研究所·译·苏联：苏联军事出版局，1980.