

网络、通信、安全

基于GEO/MEO星座的卫星网络抗毁结构研究

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摘要 设计并分析了一种基于链路冗余与修补方法的双层抗毁卫星网络。通过对网络中MEO星层进行基于快照周期的分群管理和群首备份选择机制, 从星座组网结构方面提高卫星网络的抗毁性能; 通过设计网络结构中群内、星层以及整个星座的通信链路, 特别是对星座中MEO星层的通信链路进行充分的冗余设计, 以及启用视距范围内间隔失效卫星间相邻卫星节点链路连接的链路设计, 从星座网络的通信链路上提高整个卫星网络的抗毁性能。最后对所设计的卫星网络的结构性能进行了简要分析。

关键词 [卫星网络](#) [全球覆盖](#) [分群](#) [抗毁](#)

分类号

Reserch on destruction-resistant architecture' s of satellite network based on GEO/MEO constellation

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Abstract

A destruction-resistant architecture of satellite network based on double-layered constellation is designed and analyzed with method of redundant and modified links in this paper.The MEO layer satellites in constellations are grouped and managed based on logic position fixed in each snapshot period by combining MEO' s logic position with location. In particular, the capability of destruction-resistant in satellite constellations is improved by the mechanism of selecting backup header of group and replacing failure group manager GEO with group header MEO.With data links among groups and satellite layers and satellite constellations is designed, especially, the capability of destruction-resistant and communication and traffics in satellite constellations is improved by data links designing with redundancy among MEO layer and among a pair of satellites adjacency to failure satellite each other within sight of line scope, to satisfy requirement on transferring many kinds of servers data packages.

Key words [satellite network](#) [global coverage](#) [group destruction-resistant](#)

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