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陆基导航定位系统岸台布局实用方案设计 (PDF)

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Title: Design of Region Navigation Positioning System Coastal Station Distribution

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关键词: [陆基导航](#); [定位](#); [GDOP](#); [岸台分布](#)

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摘要: 陆基导航定位系统定位误差与目标相对于岸台的几何关系密切相关。在分析陆基导航定位原理的基础上,以矩阵为工具,计算了系统几何定位因子,并采用最佳估计原理证明了几何定位因子随着岸台数量的增加而不断减小。提出了最少岸台数目的陆基导航定位系统岸台分布模型,并以Matlab为工具对三个岸台情况下的系统岸台分布模型进行了仿真,得出三个岸台情况下基线长度和夹角对几何定位因子的影响,为实际的岸台建立提供了有效的理论依据。

Abstract: After analyzing the ground based navigation positioning principle, the matrix was used as the tool to calculate the geometrical dilution of precision, and it was proved by optimal estimation principle that the geometrical dilution of precision decreases with the number of the coastal stations increases. When the number of coastal radio stations was the least, the coastal station layout model was proposed when ground based radio navigation positioning system was built up. The models were simulated with the Matlab. The influence of the length of base line and the angle on GDOP was obtained, and the best layout of the ground based navigation positioning system was also obtained, which lays effective theoretical foundation for the real coastal station establishment.

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备注/Memo: 收稿日期: 2009-02-24 作者简介: 袁赣南 (1945-), 男, 江西赣州人, 教授, 博士生导师, 研究方向: 组合导航理论、数据融合及船用惯性技术。

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