

Research on the United Navigation Mechanism of Land, Sea and Air Targets under Multi-Sources Information Fusion

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Abstract : The navigation information is a kind of dynamic geographic information, and the navigation information system is a kind of special geographic information system. At present, there are many researches on the application of centralized management and cross-integration application of basic geographic information. However, the idea of information integration and sharing is not deeply applied into the research of navigation information service. And the imperfection of navigation target coordination and navigation information sharing mechanism under certain navigation tasks has greatly affected the reliability and scientificity of navigation service such as path planning. Considering this, the project intends to study the multi-source information fusion and multi-objective united navigation information interaction mechanism: first of all, investigate the actual needs of navigation users in different areas, and establish the preliminary navigation information classification and importance level model; and then analyze the characteristics of the remote sensing and GIS vector data, and design the fusion algorithm from the aspect of improving the positioning accuracy and extracting the navigation environment data. At last, the project intends to analyze the feature of navigation information of the land, sea and air navigation targets, and design the united navigation data standard and navigation information sharing model under certain navigation tasks, and establish a test navigation system for united navigation simulation experiment. The aim of this study is to explore the theory of united navigation service and optimize the navigation information service model, which will lay the theory and technology foundation for the united navigation of land, sea and air targets.

Keywords : information fusion, united navigation, dynamic path planning, navigation information visualization

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