

Remote Sensing Image Segmentation Based on Membership Clouds

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Abstract: The “West-East Nature Gas Pipeline” is a great project in China. Advanced remote sensing technology combined with GIS is used to select the favorable plan from various possible routes through interpreting the information of topographic landform, regional geology, disaster geology, traffic conditions and nature environment from remote sensing images. There are a lot of changes in geographical and environmental factors along such pipelines due to the rapid development in China. Image maps produced from new satellite sensor data can identify these changes and be used successfully not only on route-selection studies but also on in situ investigation, together with GPS. Results from detail analysis provide necessary information and parameters for plan, design and construction of the pipeline and they are also the basic data for the pipeline database based on GIS. A dynamic 3D display has been applied using remote sensing and DEM data. The set of techniques has been applied on planning and designing several pipelines successfully.

Keyword: 3S technologies, route-selection of pipelines, image maps