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A NEW IMAGE FEATURE RECOGNITION METHOD BASED ON SPACE VEHICLE SURFACE  
FEATURE

**Abstract**

Based on the inherent characteristics of space vehicle end surface, combined with the existing space image measurement system hardware platform, a new method is proposed in this paper which is about surface image feature extraction and recognition in order to obtain the key objectives of surface feature information in the camera field during the experiments and it could play a guide role for the separation technology optimization. In this paper based on the space vehicle image, the ellipse edge feature is detected using the Canny operator, then the edge feature is split into several arcs. Using the method of arc fitting, arc merger and ellipse extraction, the surface feature is extracted accurately. Simulation results show that the image feature recognition method has good real-time performance and high precision, and significantly enhance the image measurement ability of space vehicle.