Geological Reconnaissance of the Sierra Madera Astroblem using Landsat Imagery

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Landsat satellite data was used to perform a geological reconnaissance of the Sierra Madera impact site. The objective of the project was to employ satellite imagery to map the dominant structure and geological units present at the site. The imagery data was processed to multiple bands using principal components analysis (PCA) and minimum noise fraction techniques (MNF). The results show that the use of Landsat imagery is effective in revealing large and medium scale details at the site and provides a mapping of units that agrees well with ground-based maps of the site.