Application of SAM, MF and MTMF for recognition of alteration areas in Chahar Gonbad area

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Abstract
The minerals that are associated with alteration processes usually show spectral characteristics that allow their recognition by using remote sensing techniques. The main aim of this research is to evaluate different image processing methods for preparation of alteration map by using index minerals. The study area includes the Chahar Gonbad geological sheet. The image derived spectra were used as the representative spectra of alteration areas. Image processing techniques such as spectral angle mapper (SAM), matched filtering (MF) and mixture tuned matched filtering (MTMF) were used for preparation of alteration maps. The results obtained by image analysis were validated by ground sampling.

Keywords:
Hydrothermal alteration, Chahar Gonbad Area, MF, MTMF, SAM