



Identification of hydrothermal alterations associated with Copper (Cu) mineralization in Sidi flah-Bouskour inlier, Moroccan Anti Atlas

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The massive of Saghro at the Moroccan Anti Atlas is known by the abundance of economically important deposits. Among others, the Copper (Cu) deposit in Sidi flah-Bouskour inlier. With its high potential in terms of production, this deposit is considered among the most important and most promising at national scale. The objective of this work is to evaluate the potential of multispectral Terra ASTER and Landsat 8 OLI data in mapping hydrothermal alterations associated with this copper mineralization. The methodology was based on Mixture Tuned Matched Filtering (MTMF) and the Spectral Angle Mapper (SAM) classifications. The application of these techniques on the Visible-Near (VNIR), Shortwave Infrared (SWIR) and Thermal Infrared (TIR) spectral regions gave satisfactory results in comparison to the pre-existing geological studies and the ground truth. Therefore, the methodology used can be generalized to the Moroccan Anti Atlas for mineral exploration.