

Research on uranium and thorium elements exploration through the study of petrography, petrology and geophysical method in the Saghand Area (Central Iran) Islamic Republic of Iran

Wednesday, June 25, 2014 5:00 PM (0 minutes)

This study is a research on uranium and thorium exploration by use of the petrography, petrology and radiometric data in the Saghand area, Central Iran plateau. The lithologies of this area comprise of granite and metasomatized granite. As a result of metasomatic process, uranium and thorium bearing minerals such as davidite and alanite were formed. Sericitization and albitization are the main alterations detected in the study area and thorium mineralization is more common in albitization. By investigation of the chemical classification, non-radioactive specimens, rock types include: diorite and granodiorite, while radioactive specimens consist of gabbroic rocks (basalt). According to the magma source graphs, these rocks formed by calc-alkaline series magma. A scintillometer and spectrometer (MGS-150) were used for radiometric data acquisition. 1001 data points have been obtained from 11 profiles and total counts for, K, U, Th were measured. After primary data processing, data logarithms were calculated for normalizing, and the radiometric data show that uranium and thorium enrichment is more than potassium, while thorium and uranium enrichment are approximately equal. After data integration, two probable anomalies were determined in northwest and northeast parts of the study area.

Primary author: Mr IRANMANESH, Jalil (I.R.Iran)

Co-authors: Mr RAZLANI, Saman (I.R.Iran); Mr FATTAHI, Vahid (I.R.Iran)

Presenter: Mr IRANMANESH, Jalil (I.R.Iran)

Session Classification: Poster Session

Track Classification: Advances in exploration and uranium mineral potential modelling