

## **GEOCHEMICAL CHARACTERISTICS OF THE YAHYALI PLUTON, TURKEY**

KOÇAK, K, Selçuk University, Engineering Fac., Dep. Of Geological Eng., 42031, Konya/TURKEY

Yahyali pluton of Eocene-Oligocene aged, situated in Aladag unit of Tauride tectonic belt, is compositionally zoned, from core to rim, by quartz diorite, granodiorite and granite. It cut Permian aged limestones, which induced development of economical Fe mineralisation at the contact between the pluton and limestones. The granitoids are made up by quartz, orthoclase, plagioclase, brown biotite and green hornblende with minor allanite, apatite, sphene and zircon in hipidiomorphic granular texture. They have variable chemical composition: SiO<sub>2</sub>: 60-76%, Al<sub>2</sub>O<sub>3</sub> :12-20, CaO: 0,5-6.2, Na<sub>2</sub>O: 3.3-8.2, K<sub>2</sub>O:0.6-5.5. Major, minor and trace element co-variations of the granitoids show that the pluton is of I-type, metaluminous to slightly peraluminous and high-K in composition with volcanic arc setting. Chondrite normalized rare earth element pattern of the granitoids are characterised by light rare earth element enrichment compared to heavy rare earth elements, which indicates existence of residual garnet during partial melting. Pronounced Eu anomaly (Eu/Eu\*: 0.3034) can be interpreted as the plagioclase leaving out of the magma before crystallisation of the granitoids.