

side and bottom parameters were set to be large to simulate infinite boundaries. The inverted resistivity sections show that the landslide body has different degrees of an altered material and a high degree of saturation. The sliding surface is at a depth of about 10 m, with 2.5 m of soil material overlying 7.5 m of landslide material. The landslide body has different degrees of an altered material and a high degree of saturation, and the sliding surface is at a depth of about 10 m. The relatively high resistivity values at the bottom of the sliding surface correspond to the marl layer.

Petrogenesis and SHRIMP zircon U-Pb dating of some granitoids within the Western Pontides, Southeastern Balkans, NW Turkey

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The Pontides is one of the main tectonic units of Turkey which have been defined western, central and eastern Pontides. The Western part of the Pontides is separated tectonic subunits such as the İstanbul and Strandja zones. The Strandja zone reveals part of the large crystalline terrane in the southern Balkans, which also includes Rhodope and Serbo-Macedonian massifs. The İstanbul Zone is a continental terrane and includes sedimentary succession ranging from Ordovician-Carboniferous deposited metamorphic basement and it is settled at the east of the Strandja Zone.

According to the our new zircon U-Pb age data, the basement rocks of Strandja zone form Late Proterozoic and Early Paleozoic metagranitic rocks. At these zones granitoids are determined with different age, geotectonic setting and magma genesis. In the Çatalca region, tip of the southeastern part of the Strandja Zone, two units are determined as the Precambrian Çatalca metagranite and Permian Tepecik cataclastic granite. In the eastern part of the studied area, within the İstanbul Zone, the Permian Sancaktepe granite (Gebze) and the Upper Cretaceous Çavuşbaşı granodiorite intruded into the Paleozoic sedimentary rocks. According to the mineralogical-petrographical-geochemical and geochronological properties of granitoids, the Çatalca region granitoids are similar to the Sancaktepe granite.

In terms of the geochemical features, the granitoids in the Çatalca region and the Sancaktepe granite have subalkaline, high-K calcalkaline and peraluminous characters, while the Çavuşbaşı granodiorite display subalkaline, middle-K calcalkaline and metaluminous characters. All three units display I-type magma character and arc-type geotectonic events, but some samples are between I-type and S-type according to the geochemical results. According to isotope geochemistry the Çatalca granitoids have low values of initial $^{87}\text{Sr}/^{86}\text{Sr}$ and $^{143}\text{Nd}/^{144}\text{Nd}$ isotopes (0.6941 and 0.5120), while Sancaktepe granite has similar values (0.6989 and 0.5122). The Çavuşbaşı granodiorite display the highest values of isotopic ratios (0.7035 and 0.5127).

Çatalca metagranite gives the Latest Precambrian-Early Cambrian (534.5±4.7 MY) SHRIMP zircon U-Pb crystallization ages. Tepecik cataclastic granite and Sancaktepe granite crystallized during the Permian with age determinations of 249.4±1.5 MY and 253.7±1.75 MY, respectively. The youngest unit of this region is the Çavuşbaşı granodiorite which yields an Upper Cretaceous age (67.75±0.59 MY). The presence of the Late Precambrian-Early Cambrian granitoids in the Strandja Zone is newly data for the region. Gondwana or Pan-African origin similar ages basement rocks there are in some localities such as Menderes and Bitlis Massives and İstanbul zone in Turkey. Thus, these rocks may be correlated with the same ages rocks in the other localities along the Rhodope-Pontide belt that related to the evolution of Tethyan ocean.