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New U-Pb and Rb-Sr ages from suture zone between Istanbul and Sakarya terranes, northwest Turkey

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We provide new isotopic data from the Intra-Pontide Suture Zone, between the Sakarya and Istanbul terranes at the west of Armutlu Peninsula. Istanbul and Sakarya terranes show different geological histories, as reflected in their stratigraphic record, and are juxtaposed along the Intra-Pontide suture. The new U/Pb zircon and Rb/Sr mica ages come from west of Armutlu Peninsula and Almacık Mountains stretching nearly 160 km E–W direction. The Istanbul terrane has a late Proterozoic basement (Chen et al., 2002; 570 Ma) overlain by a sedimentary sequence of Ordovician to Carboniferous age. The Sakarya terrane is characterized by Carboniferous (330-310 Ma) high temperature metamorphism (Okay et al., 2006), Paleozoic granitic plutonism (Topuz et al., 2007) and by the presence of Palaeo-Tethyan subduction-accretion units. The age of metamorphism of the basement gneisses at the west of Armutlu Peninsula and the age of formation of the basement metagabbros of Almacık Mountains were not constrained. The U/Pb formation age of the zircons from a metagabbro give 1325.3 $\pm$ 5.3 Ma. This age shows that mafic rocks of the Istanbul terrane basement is older than its felsic rocks (e.g. 570 Ma). Our U/Pb zircon and Rb/Sr biotite geochronological data shows that the basement gneisses of east of Armutlu Peninsula formed at Late Proterozoic (U/Pb zircon age; 500-685 Ma) and reheated at Late Jurrasic (Rb/Sr biotite age; 154.6 $\pm$ 2.7 Ma). This data agrees previously presented Mid Mesozoic (Akbayram et al, 2009; 138 Ma) collision between Istanbul and Sakarya Terranes.

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