The origin and the genesis of these zircon megacrystals in alkaline basalts are currently unknown and controversial. Recent research favour one of the following two models: a cogenetic and a non cogenetic origin. Therefore, investigations about the mineral chemistry and isotopy from these basaltic zircons may supply important information about melt processes in the Earth mantle and about processes of magma differentiation and mixing.

In a first step we have investigated the zircon typology from the above-named three localities in eastern Saxony. We can observe two respectively three subpopulations: the first are S- and J types with predominant 100-prisma and blunt-angled 101-dypiramid in crystal form. The same crystal types were observed by phonolite zircons from the Zittauer Gebirge what indicates a petrogenetic relationship between this basaltic zircon subpopulation and the phonolitic melt and therefore a cogenetic origin. The second subpopulation only observed at the Lausche locality is composed by D- and P5-types with exclusive 110-prisma and blunt-angled 101-dipyramid. The prism is very small and is missing sometimes, so that only double-pyramids exist. The third subpopulation is with 1% to 5% rare, but at the Hofeberg locality very common with 43% from all zircon-typological investigated crystals. Only these crystals are mostly non-transparent. They are G1-, P1- and P2-types with 110-prism and blunt-angled 101-dypiramid.

The last crystal type represents typical granitic zircons, but there is evidence for an alkaline origin e.g. from syenitic, phonolitic or trachytic rocks by mineral chemistry and mineral inclusions. Following zircon typology and mineral chemistry zircons from the first subpopulation indicate also an alkaline origin, but the melt was some different to the first one. Preliminary *in situ* Hf-isotopic analyses of zircons from the first subpopulation show an origin from the lithospheric mantle.

Tectono- sedimentary evolution of the Eocene transgressive deposits in the SW Turkey: an overview

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Western Anatolia is characterized by N-S and NE-SW oriented extensional neotectonic regime and with E-W, NE and NW-trending depression fields. The Aegean region has been subjected to active N-S extensional tectonics, under the control of the westward movement of the Anatolia plate bounded by the North Anatolian and East Anatolian faults. Tectonic evolution stages of SW Turkey can be divided into four main periods (from latest Cretaceous to the late Miocene). These are in ascending order; (1) Closure of the Pamphylian basin and emplacement of Antalya nappes (during the latest Cretaceous and the Paleocene), (2) Emplacement of Lycian nappes (end of Eocene-Early Oligocene), (3) Forming of the Oligocene molasse basins, (4) Opening of the Baklan and Acıgöl grabens (late Miocene) under the NW-SE and N-S extensional regimes of which has developed simultaneously. The Middle-Upper Eocene sedimentary sequence in Acıgöl (Başçeşme formation), Burdur (Varsakyayla formation) and Isparta (Kayıköy formation) basins (SW Turkey) have commenced with conglomerates and coarse grained sandstones and change to the shale dominated turbidites and limestone interbeds in the upper most part. Generally, the amount of fauna fossils and calcium carbonate content increase upward from the conglomerate to the limestone. The main sedimentary structures of the coarse conglomerate and sandstone constituents in the lower most part of the Eocene sequence indicate the terrestrial (alluvial fan) and transitional (tidal flat) environments. Further more thin bedded sandstone- mudstone alternations point out marine facies (flysch facies) through the eastern part of study area (Isparta region). As a result of this study, it can be mention that palaeoenvironmental changes associated with sea level fluctuation depend on the transgression and tectonic activity.

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