

The intrusive body at the Saruodaki Falls in the San' in Kaigan Geopark is not a dike but a laccolith

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The Saruodaki Falls with a height of ~60 m is one of the highlights of the San' in Kaigan Geopark, central Japan. It has been believed that a thick dike crops out there. Tsunakawa et al.(1983) obtained the K-Ar ages of 13.9 and 14.6 Ma from the intrusive body. Trends of dikes in the geopark, including the intrusive body at the waterfall, were used to argue the change of regional stress field at 15 Ma in SW Japan (Kobayashi, 1979a, b; Tsunakawa, 1986; Yamamoto 1991). The simultaneous cessation of the rapid paleomagnetic rotation of SW Japan (Otofuji et al., 1985) led researchers to argue the end of the Japan Sea opening at 15 Ma (Tsunakawa, 198; Yamaji and Yoshida, 1998). To re-examine the stress fields before and after 15 Ma, we have investigated intrusive bodies in the southern part of the geopark (Haji et al., JpGU2017, Session S-IT29).

As a result, it became clear that the intrusive body at the falls is not a dike but a laccolith. This judgement is based on the following observations. First, the boundary between the body and its host rock has undulations in a map view. The host is composed of shale generally with inclined east by northeastward at ~10° around the falls. The boundary runs approximately along topographic contour lines. In addition, the shale formation is locally bent to form monoclines near the boundary.

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