

Study of Japanese impact structure by satellite data analyses

Yasunori Miura[1], # Miklos Kedves[2]

[1] Earth Sci., Yamaguchi Univ, [2] Earth Sci., Yamaguchi Univ.

Japanese satellite (JRES-1) images obtained using SAR and VNIR reveal the southern gravity anomaly rim of the 4-km diameter as a valley feature and a secondary topographic ring at ca. 8 km diameter in the south side of impact crater at Takamatsu, Kagawa, Shikoku, Japan, which is marked by fractured Rhyoke granite and suevitic breccias without zeolite alteration. A Miura (Kagawa - Takamatsu), designated as M(KT), impact crater is considered as larger circular structure of ca. 8km in diameter by recent re-investigation.

Japanese satellite (JRES-1) images obtained using SAR and VNIR reveal the southern gravity anomaly rim of the 4-km diameter and a secondary topographic ring at ca. 8 km diameter in the south, which is marked by fractured Rhyoke granite and suevitic breccias without zeolite alteration.

Japanese satellite (JRES-1) images obtained using microwave radar (SAR) and multi-spectral optical measurements (VNIR) reveal the southern topographic rim of the crater coincident with the edge of the 4-km diameter circular gravity anomaly. Satellite data also support the existence of a secondary ring at ca. 8 km diameter in the south, which is marked by highly fractured Rhyoke granite with vertical fracture surfaces and shear zones, and outcrops of suevitic breccias.

A Miura (Kagawa-Takamatsu) impact event occurred in target rocks of Late Cretaceous Rhyoke Granite on the proto-Japanese islands at 15.3 Ma, and the crater was filled and eventually buried during movement of the Japanese Islands to their present location. Passage through the volcanic front of the Sea of Japan led to basaltic andesite volcanism around and inside the impact structure at about 14.2 Ma.