

Separation of long and short term crustal deformation of Izu Ohshima islands and each sources

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Takayama et al. (2014) showed that we could separate Izu Ohshima crustal deformation into short term and long term variation. We divided short term variation into dilatational component and compressional component. Dilatational component and compressional component were almost same in the direction without polarity, but long term variation was different from them.

We analyzed long term variation and short term variation by Yamakawa-Mogi model and dyke model. We use MaGCAP-V, a program that can fit crustal deformation data using Yamakawa-Mogi model and dyke model.

Short term sources of dilatational and compressional components are at the north caldera and 4km depth. Observed height variation are fit for calculated variation too. Long term source is beneath north caldera rim and 7km depth. But observed height variation are not fit to calculated height variation. So, we add dyke model to Yamakawa-Mogi model. Then, observed height variation are fit to calculated height variation.

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