Dike intrusion model of 1998 earthquake swarm activity off the east coast of Izu peninsula using GPS data and precise hypocenters

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In order to estimate the dike intrusion process that induced the swarm activity off the east coast of Izu peninsula in 1998, we analyzed the GPS data from stations densely deployed near the swarm area. Since we had the precise locations of the earthquake swarms, we assumed the location of the opening fault (i.e. dike) from the hypocenter map. The source time functions of the faults were calculated using time dependent inversion method, and the result fitted observational data well. The estimated source time function harmonized with the temporal variation of the hypocenters very well. From the precise hypocenters and the estimated source time function, we proposed the dike intrusion process that was different from the previous models.