Geophysical Research Abstracts, Vol. 8, 10194, 2006
SRef-ID: 1607-7962/gra/EGU06-A-10194

Generation phase of tsunamis in oceanic subduction zones

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Earthquakes in subduction zones may trigger a long rupture zone along which vertical bottom motions excite tsunami waves. We investigated the generation process theoretically using a characteristic method for a simplified water model, and calculated the tsunami generation using a new variational Boussinesq model.

Special attention is paid to the differences with the 'Mansinha-Smylie' method (1972); in particular, effects of dispersion depending on the (tangential and transverse) bottom rise velocity.