

Strong ground motions around the Fukushima Daiichi Nuclear Power Plant and the SPGA model

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After the severe accident at the Fukushima Daiichi Nuclear Power Plant, it is significantly important to investigate how strong ground motions were generated around the power plant. In this study, the SPGA model (Nozu, 2012; Nozu et al., 2012) was used to explain strong ground motions in the area. According to the results, the strong ground motions around the nuclear power plant were far from a so called 'worst case scenario'. The most prominent SPGA for the 2011 Tohoku earthquake was SPGA4, which was located away from the coast and it was at least 150km off Sendai City. The SPGAs off Fukushima Prefecture were closer to the coast but they were relatively weak and hence did not cause catastrophic ground motions in that area. Such a configuration of the SPGAs was nothing more than a 'manna from heaven', because, there is no necessity for this configuration from the view point of modern seismology. In the assessment of such important facilities as the nuclear power plants, a true 'worst case scenario' should be considered, where a strong SPGA is close to the nuclear power plant.

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