

## The longer active fault is, is the larger ground motion generated? -Surface and buried rupture earthquakes-

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Ground motion characteristics from surface and buried rupture earthquakes are demonstrated. Magnitude of surface rupture earthquake is large and it causes heavy damages in wide area. However, it is considered that ground motions from buried rupture earthquake is larger than those from surface rupture earthquake assuming same magnitude for both types of earthquake.

In case of aseismic design for important facilities, fault rupture scenarios tend to be conservative such as setting a long active fault with large magnitude. The larger magnitude is, the longer predominant period of ground motion from the earthquake is. However, ground motion in short period range that really affects on the target facility does not grow so large. Short period ground motion is affected more by fault distance than magnitude. Unfortunately, it is possible that larger ground motions in short period range are generated from small buried earthquakes than from large surface earthquake. Furthermore, probability of small buried rupture earthquakes are larger than that of large characteristic surface rupture earthquake. It might be an important issue for important facilities located in specific regions.

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