An Evaluation of Strong Ground Motion due to Assumed Nagano-ken Earthquake

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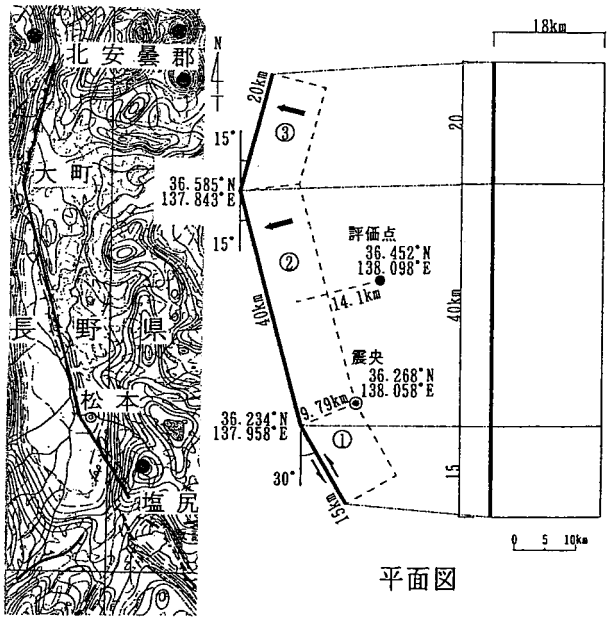
In Nagano prefecture, the occurrence possibility of big earthquake in near future is discussing in Japan. In this paper,assumed earthquake is studied as the earthquake magnitude M8.This model consists of three segments. Recently studied average strong ground motions are used for the synthesis by means of the empirical Green's function method.Evaluation of ground motion is located 15.6km from center of the fault.On the ground surface of hard soil,evaluated maximum acceleration and maximum velocity are close to the recently studied average values of strong ground motion. Predominant periods of evaluated velocity waveforms are from 0.7 to 1.4 second and 3 second.

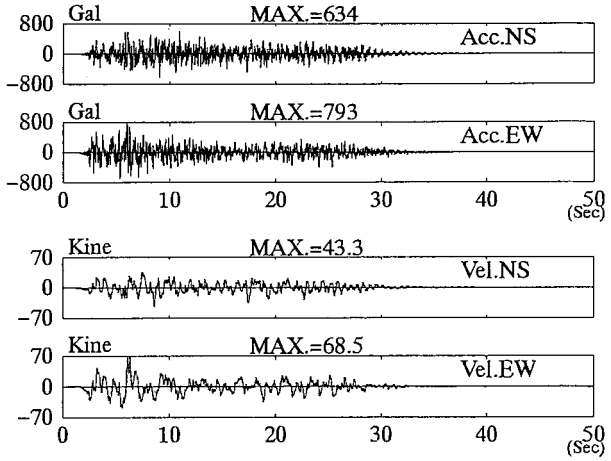
【表 1】断層モデルの諸元

segment	①	②	③
running degree	S30゜E	N15゜W	N15゜E
length×width (km)	15×18	40×18	20×18
earthquake moment (dyne·cm)	7.1×10^{26}	1.9×20^{27}	9.6×20^{26}
average slip(m)	8	8	8

rise time 4s, V_R=2.5km/s, Matsuda Formula $M_J \fallingdotseq 8$



【図 1】長野県中部断層系とその断層モデル



【図 2】模擬地震動の時刻歴波形