

SSS023-04

Room:IC

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Benchmark Tests for Strong Ground Motion Simulations (Part 7 : Numerical Methods, Step 3 & 4)

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We performed a benchmark test for the strong motion simulation methods using numerical methods (finite differences method and finite element method). Six teams from different institutions solved the same problems with the same subsurface structure models and the same seismic sources. We tested three subsurface models: a four layers model, a torapezoidal sedimentary basin model and a stant basement model. All the results calculated by six teams generally show good agreement to each other. We found minor differences are generated by the difference of property distribution near the irregular layer boundaries.

表 1 2010 年度の数値解析手法の解析条件一覧

モデル名	ステップ3 (締切:2010/9/1)			ステップ4 (締切:2010/11/1)	
	N31	N32	N33	N41	N42
地盤	4層地盤		対称盆地	傾斜基盤盆地	
減衰	あり			あり	
震源	点震源A	点震源B	点震源C	点震源C	点震源D
有効動数	0~2.5Hz			0~2.5Hz	
出力点	21点	19点	21点	21点	21点

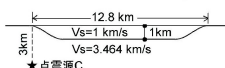
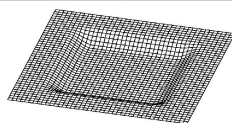


図1 対称盆地 (N33)

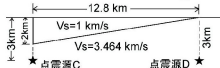
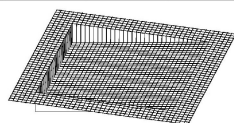


図2 傾斜基盤盆地 (N41, N42)

Keywords: Strong Ground Motion Simulation, Benchmark Test, Numerical Methods, Finite Difference Method, Finite Element Method