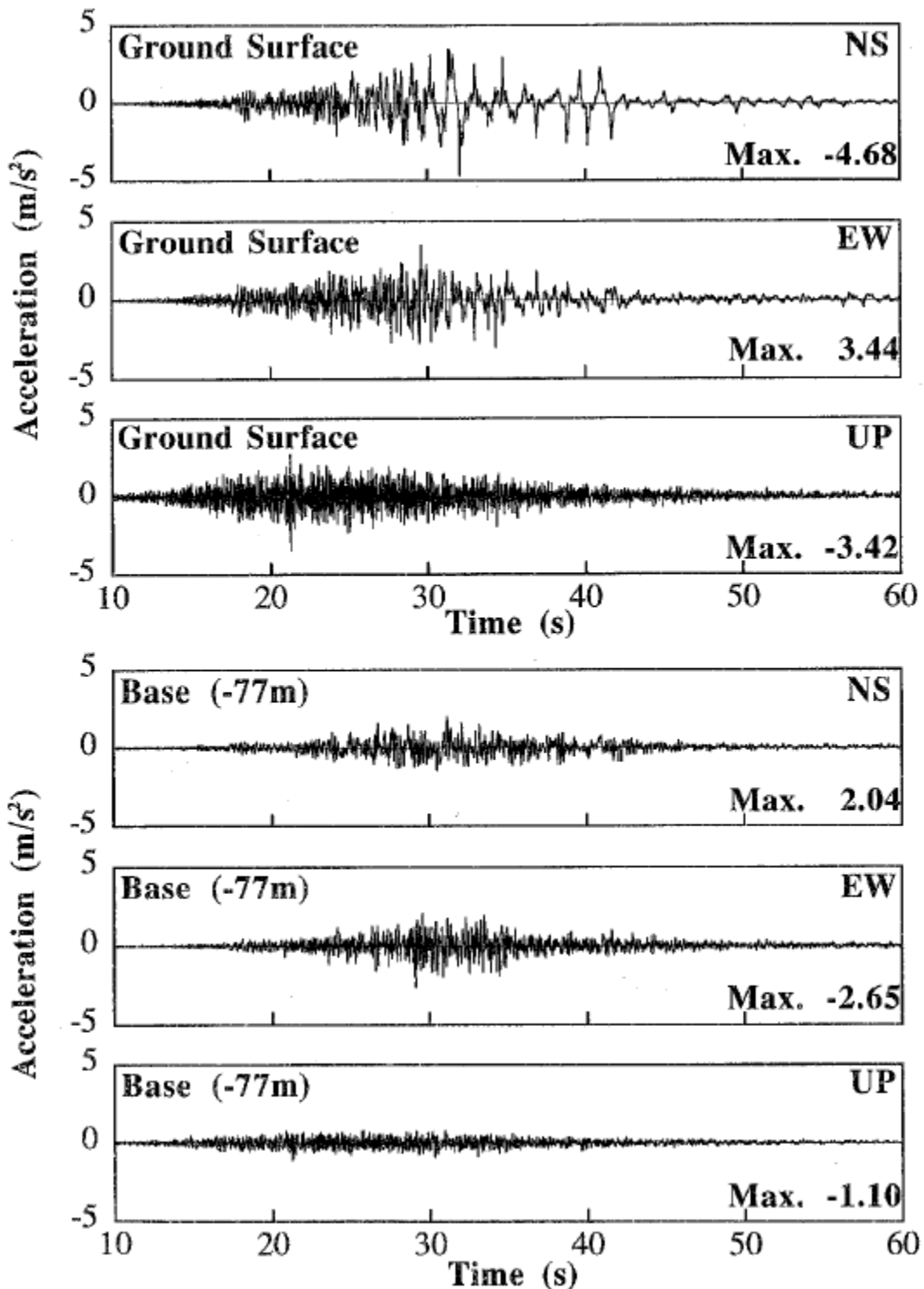


Analysis of response and liquefaction of horizontally layered ground

[Nonlinear earthquake response (cyclic mobility) of dense sand deposit]

During 1993 off Kushiro earthquake, the following earthquake records are obtained by a vertical array at ground surface and at a depth of 77m. NS component at the ground surface has pulse like wave form which is not distinct at the base.



Analysis by FLIP ROSE 2D results in the acceleration and displacement which are consistent with those recorded and the cause of the pulse like wave form is identified as cyclic mobility, a distinctive nonlinear behavior of sand under undrained condition.

FLIP program can analyze this type of complex nonlinear behavior of ground during large earthquakes.

