

MODELING AND ESTIMATES OF NONLINEAR EFFECTS IN STRONG EARTHQUAKE
MOTION FOR THE LOS ANGELES AREA

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Non-technical summary

We have pursued the development and validation of the nonlinear model of soil dynamics using SCEC sponsored studies and strong motion data recorded during the 17 January 1994 Northridge earthquake (M_w 6.7). Measurements of ground motion observed at the Pacoima Dam Downstream (PCD or PAC) site located on bedrock, have been coupled with the nonlinear model to generate scenarios of ground shaking at the Newhall Fire Station (NWH) site. These results confirm the presence of nonlinear effects in the mainshock observed at the NWH site.