International Journal for ENGINEERING MODELLING
Vol. 11, No. 3-4, 1998.

Engineering modelling for inelastic seismic response of RC bridge columns

Tatjana Isaković and Matej Fischinger

University of Ljubljana, Faculty of Civil and Geodetic Engineering, Jamova 2, SI-1000 Ljubljana, SLOVENIA

SUMMARY

Two mathematical models (fiber beam element model and beam element model with lumped plasticity) frequently used in the inelastic seismic analysis of reinforced concrete (RC) bridge columns were studied on the example of a typical European viaduct. The analytical response was compared with the experimental results.

The fiber beam element model was found to be complex and difficult to control. A lot of "tuning" was necessary to fit the experimental behaviour. The beam element model with lumped plasticity was more successful and, first of all, simpler and easier to control.