**A comprehensive numerical simulation of steel-concrete composite beam incorporating compression failure of concrete**

Mahendra Kumar Pal, Takuzo Yamashita, Tomoshi Miyamura, Makoto Ohsaki

Content

1. Introduction
   1. Introduction about E-Simulator project
   2. Brief information about the experiment
2. Constitutive model
   1. A brief summary of steel model
   2. For concrete: formulation corresponding to and discussion of 1-Dice element simulation results
3. Numerical Setting: CAD model and FEM model details.
4. Result and Discussion
   1. Moment theta relationship and its improvement with respect to previous simulation
   2. Local bucking of column
   3. Stress path so that dominance of compression and tension can be discussed/explained
   4. Propagation of damage also can be discussed
5. Conclusion
6. 1
7. 2