

N.º 07

My OpenSees database would not reproduce: the material remembered the previous model

I reran 20 analyses with the same code and the same inputs, and none matched. The cause was a material that keeps memory between models when they run in the same Python process. The fix is one line.

1.

The symptom

0 of 20

Analyses that matched when rerun. Most changed a little; one changed by almost 90%.

2.

The key test

$\approx +6\%$

The same analysis, run alone in a fresh process, or after another model in the same process.

3.

Not the tolerance

Tightening it a hundred and ten thousand times did not move the gap. Two well-solved answers to two different problems.

4. The fix

A fresh process per model: `Pool(..., maxtasksperchild=1)`. It costs a little time and gives results you can repeat.

Full note, with equations and tables, at the link on my profile.

Yordan Rocio Maldonado

Structural engineer, seismic and bridge specialist

CIP 215845