Hinge first steps (SAP2000)

Tutorial

Name:	Hinge first steps (SAP2000)
Description:	Basic introduction to hinge application in SAP2000.
Program:	SAP2000
Version:	
Model ID:	na

Users must assign concentrated hinges to frame elements which may experience nonlinear behavior. Definition of nonlinear material behavior does not enable plastic behavior, though it is necessary for the generation of the interaction surface and moment-rotation curves which characterize the yield criteria of a nonlinear frame element.

Key steps to modeling hinges

- Define hinge properties using the Define > Section Properties > Hinge Properties menu.
- Assign hinges to nonlinear frame elements using the Assign > Frame > Hinges menu.
- Create a nonlinear load case and run the analysis.
- Use the Display > Show Hinge Results menu to plot hinge deformation against applied loading. Moment vs. plastic rotation is one such option.

See Also

- *CSI Analysis Reference Manual* (Frame Hinge Properties, page 131)
- Verification Example 1-026, available through Help > Documentation > Analysis Verification > Frames > 1-026 Moment and Shear Hinges
- Habibullah, A., Pyle, S. (1998). *Practical Three Dimensional Nonlinear Static Pushover Analysis* , Computers and Structures, Inc., Berkeley, CA