Hinge first steps (CSiBridge)

Tutorial

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

Users must assign discrete hinges to frame elements in order to model nonlinear behavior in frame element. Merely defining a nonlinear material properties does not activate nonlinear material response of frame elements, unless hinges are assigned to the frame elements. Nonlinear material stress-strain curve is used to determine the response of the hinges.

Key steps to modeling hinges

- Define hinge properties using the "Advanced Tab > Define > Section Properties > Hinge Properties" menu command.
- Assign hinges to frame elements using the "Advanced Tab > Assign > Frames > Hinges" menu command.
- Create a nonlinear load case and run the analysis.
- Use the "Home Tab > Display > More > 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 "Orb (circular bridge icon) > Resources > Documentation > Show > 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