Blind Prediction Survey of Quasi-Static Cyclic Test of an RC Column

Rules of the Survey

All information and details regarding the blind prediction contest can be found in the following web site: https://peer.berkeley.edu/news-and-events/2021-blind-prediction-contest

1. Participants may consist of individuals or teams. An individual can only be involved in a single team. If an individual is part of a team, the individual cannot participate in the competition separately as an individual.
2. The participant must use the prediction submittal spreadsheet to provide the requested information. Inputs in green shaded cells are used in scoring the prediction. Inputs in blue shaded cells must be completed as well and provide additional information, including identifying the approach used to make the prediction.
3. The participant should identify as one of the three categories on the Submittal Spreadsheet: Practicing Engineer, Researcher, or Student. If you have a team with a mix of practicing engineers, researchers, and students, choose the category that best fits. A student team can include only students.
4. A participant may submit more than one prediction, for example using different approaches or code equations. To do this, the participant should copy a sheet named "Prediction input form" in the spreadsheet for each additional prediction, and number their predictions. For a participant with multiple predictions, only Prediction 1 (the first sheet) will be considered as an entry in the contest.
5. The deadline for predictions is September 9, 2021. A summary of predictions and the identification of contest winners will be announced soon after this deadline.
6. Questions about the blind prediction survey or details about experimental setup and loading can be submitted to the Contest Organizing Committee (e-mail address: vesna.terzic@csulb.edu) until August 19, 2021. Questions and answers will be posted on the competition web site under the Q&A tab and will be updated regularly.
7. Participants with knowledge of or familiarity with the test results are excluded from making predictions. Those at organizations involved in the testing (Simpson Strong Tie, Tipping Structural Engineers, Maffei Structural Engineering, California State University Long Beach, PEER Center Headquarters) without knowledge of the test results can enter predictions but they are not eligible for awards.
8. The following system will be used to judge the category winners.

   Maximum points (MP) assigned to the predictions and methods for scoring are provided in Table 1.

Table 1: Scoring information

	Maximum Points (MP)	How scored	Error for Maximum Points (EMP)	Error for Zero Points (EZP)
Mode of failure (multiple choice)	15	0, 3, or 15 points*	N/A	N/A
Peak lateral strength, Q_M	40	Based on absolute error from correct answer	5%	35%
Story drift ratio at $0.75Q_M$	20	Based on absolute error from correct answer	10%	40%
Displacement ductility capacity	15	Based on absolute error from correct answer	10%	40%
Need for retrofit (yes/no)	10	0 or 10 points	N/A	N/A

*Note: Correct prediction of primary failure mode will be awarded 15 points. If the selected failure mode occurred as a secondary behavior in the test column, the prediction will be awarded 3 points.

The predictions of the peak lateral strength, the requested story drift ratio, and displacement capacity are graded as follows:

a. A participant that predicts a quantity within the absolute error for maximum points (EMP) given in Table 1 will get maximum points (e.g., within 5% absolute error in prediction of the peak lateral strength will result in 40 points).

b. A participant that predicts a quantity at or beyond the absolute error for zero points (EZP) given in Table 1 will get zero points (e.g., at or beyond 35% absolute error in prediction of the peak lateral strength will earn 0 points).

c. Otherwise, the participant will receive points calculated using linear interpolation per the following equation:

$$Points = MP * (1 - \frac{\%error - EMP}{EZP - EMP})$$

where,

$$\%error = \frac{|Correct\ Answer - Prediction|}{Correct\ Answer} * 100$$

All points will be added up and the team with the greatest total will be declared winner of its category.