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Report Starting: 06-08-2020
Last Report: TBD

Weekly Reports Summer 2020

Synopsis of Week of June 1st, 2020

- NASTRAN: Simulated 1D and 2D beam in PATRAN. Was issued corrective measures on how to dimension 2D shell mesh and beam object
- Python: Interpreted original MAC script given to by Bilal. Made several key adjustments as follows
 - Imported numerical and experimental data directly from .MAT (MATLAB) files into MAC script
 - Transposed the 25 x 6 x 348 matrix to workable format of dimension 348 x 25 x 6. This took significant time because MATLAB and Python store and index three dimensional arrays differently. (MATLAB array → row, column, sheet; Python array → sheet, row, column)
 - Added the numerical “deformed state” + “static state” from cell array in MATLAB
 - Given a set number of grid location points (based upon index of imported numerical grid data, not actual node location point), reduced the number of grid points in node matrix from 348 x 25 x 6 to _grid points #_ x 25 x 6,
 - Given the indexes of the numerical frequencies that best match the experimental frequencies, reduced the node’s matrix from 348 x 25 x 6 to 348 x ___# of experimental frequencies___ x 6.
- **Plans for This Week:**
 - Create function that given experimental frequencies, creates an array with the indices of the numerical frequencies that most accurately match the given experimental frequencies. (This will be based upon a % tolerance that is TBD)
 - Create function that uses location of grid points to match experimental grid locations with their numerical counterparts.