**MYSTRAN Test Problem**

**Hand Calculations**

**Foreward**

This document contains hand calculations that were made to check on the results of MYSTRAN test problem runs back in the early days when MYSTRAN code was being developed. The specific test problems contained herein were devised to check out specific details of MYSTRAN features in order to verify the adequacy of the code. The 27 test problem calculations in this document are only part of the test problem suite used check the veracity of MYSTRAN. The complete suite of test problems currently numbers over 50. The input Bulk Data Files (BDF’s) and outputs for all of the test problems, including the ones for the which hand calculations in this document were made, can be seen in the folder named Test Problems on the GitHub MYSTRAN repository

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# RBE3-01

# RODDISPL

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# SOLVE\_EQNS\_1

# Check on Sparse Matrix Add routine

# Check on Sparse Matrix Multiply routine

# Check on Sparse Matrix Partitioning Routine

# Check on Sparse Matrix Transpose Routine

Check on converting sym mat A to non-sym **form**

# Check on Sparse Matrix Conversion from CRS to CCS