

ERREU03 - Simple detection of singularity in MECA_STATIQUE

Summarized:

This test validates the emission of a message d'error when a simple singularity is detected (blocking absent or superabundant) by the direct linear solvers (MUMPS, LDLT and MULT_FRONT) in MECA_STATIQUE.

1 Principle of the test

This test is used in the case of to validate the emission of some messages by MECA_STATIQUE a symmetric matrix:

- First case: it misses a blocking. In this case one obtains FACTOR_20/77 for LDLT, MULT_FRONT and MUMPS when $NPREC > 0$ and FACTOR_57 for MUMPS when $NPREC < 0$.
- Second case: there is a superabundant blocking. One obtains FACTOR_41/83 for LDLT, MULT_FRONT and MUMPS when $NPREC > 0$ and FACTOR_42 for MUMPS when $NPREC < 0$.
- Last case: it is checked that message FACTOR_84 is transmitted when one uses parameter TYPE_RESOL=' SYMDEF' of the solver MUMPS whereas the matrix to be reversed is not symmetric definite positive.