ZZZZ258 - Validation of the keyword ETAT_INIT of STAT_NON_LINE

Summary:

This test validates the behavior of the code when one “continues” a non-linear calculation by imposing an initial state to him (keyword ETAT_INIT).

In particular, it is checked that certain alarms are emitted when one changes behavior on certain elements.

Note: The code must also emit a fatal error when the behavioral change is prohibited. This is checked in the test erreur07 (v1.01.260).

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1 Principle of the test

This test is a data-processing test. It is used to validate the programming of the treatment of the keyword *ETAT_INIT* and more particularly the routine *vrcomp.F*

To define the initial state of a non-linear calculation, the user has two possibilities:

- either it indicates a structure of data *evol_noli* and a “moment” in this *evol_noli* (keywords *EVOL_NOLI* + *INST*)
- either it gives 3 fields “isolated” from displacement, constraints and variables internal (keywords *DEPL*, *SIGM* and *VARI*)

The programming is different to treat these two cases. This is why they are tested both.

The difficulty which one seeks to test here is that of a continuation for which, one or more elements of the model “changes” behavior.

More precisely, the following situations are tested:
- the addition of new elements in the model
- removal of elements in the model
- following possibilities of changing behavior:
  - ‘vmis_cine_line’  \(\rightarrow\) ‘vmis_cine_line’
  - ‘vmis_cine_line’  \(\rightarrow\) ‘nothing’  \(\text{(removal of elements)}\)
  - ‘vmis_cine_line’  \(\rightarrow\) ‘vmis_cine_line’
  - ‘vmis_isot_trac’  \(\rightarrow\) ‘vmis_isot_line’
  - ‘vmis_isot_trac’  \(\rightarrow\) ‘elas’
  - ‘vmis_isot_line’  \(\rightarrow\) ‘vmis_isot_trac’
  - ‘elas’  \(\rightarrow\) ‘vmis_cine_line’
  - ‘nothing’  \(\rightarrow\) ‘vmis_cine_line’  \(\text{(addition of elements)}\)
  - ‘nothing’  \(\rightarrow\) ‘vmis_cine_line’  \(\text{(addition of elements)}\)