Operator **RECU_TABLE**

1. **Goal**

   Allows to recover in a table the values of a parameter of a structure of data result, or, to extract a table contained in another structure of data for those which allow it.

   The table created can then be used in other orders ( **IMPR_TABLE** for example).

   Product a structure of data of the type **table**.
2 Syntax

```python
table = RECU_TABLE (
    ♦ CO = nomsd ,
    ♦ / NOM_TABLE = nomtab,
    ♦ / NOM_PARA = will lpara ,
    ♦ TITLE = titr ,
)
```

3 Operands

- **CO = nomsd,**
  Name of the structure of data in which one wants to extract a table.

- **/ NOM_TABLE = nomtab,**
  Name of the table stored in the structure of data.

Aujourd'hui today, the Structures of data containing a table which one can extract by `RECU_TABLE / NOM_TABLE` are the following ones:

- a structure of data of the type `evol_noli` obtained by `STAT_NON_LINE` or `DYNA_NON_LINE`, the name of table is then 'OBSERVATION',
- a structure of data of the type `grid`. The name of the table is then 'CARA_GEOM',
- a structure of data of the type `cabl_precont` obtained by the order `DEFI_CABLE_BP`. The name of the table is then ‘CABLE_BP’,
- a structure of data of the type `melasflu` obtained by the order `CALC_FLUI_STRU`; the name of the table is then 'MATR_GENE'.
- structures of data of the type `evol_elas` and `evol_noli` containing the calculated total estimators of error by `CALC_ERREUR`. The name of the table is then 'ESTI_GLOB'.
- a structure of data of the type `evol_noli` obtained by `STAT_NON_LINE`, `DYNA_NON_LINE` or of type `evol_elas` obtained by `DYNA_VIBRA` on physical basis a table contains of name 'PARA_CALC' comprising the list of the really calculated moments and, if the user activates his calculation, the energy balance. The table contains 7 columns:
  - INST : moment of calculation,
  - TRAV_EXT : work of the external efforts,
  - ENER_CIN : kinetic energy,
  - ENER_TOT : total deformation energy,
  - TRAV_AMOR : energy dissipated by damping,
  - TRAV_LIAI : energy dissipated and/or stored by the connections,
  - DISS_SCH : energy dissipated by the digital diagram.
- **/ NOM_PARA = will lpara,**
  List of the names of the parameters to be extracted from `SD RESULT nomsd`.

This functionality makes it possible to extract in the form of a table the evolution from certain parameters from one `SD RESULT`, for example the parameter of piloting `ETA_PILOTAGE` in the case of one `SD` of type `evol_noli`. The extracted parameters must be of type whole, real or complex, excluding from this fact the character strings. The first column of the produced table contains the sequence numbers (`NUME_ORDRE`) and the following ones contain the evolution of the parameters `will lpara`.

- **TITLE = titr,**
  Title which one wants to give to the table result.
4 Examples

- recovery of some geometrical characteristics of a grid:
  \[
  \text{cargeo} = \text{RECU\_TABLE} (\text{CO} = \text{grid} , \quad \text{NOM\_TABLE} = \text{‘CARA\_GEOM’})
  \]

- recovery of the values "observed" in the order DYNA\_NON\_LINE
  The order DYNA\_NON\_LINE [U4.53.01] allows to choose a set of meshes or of nodes for which one wishes to observe one or more components of certain fields (keyword OBSERVATION).
  \[
  \text{dynl} = \text{DYNA\_NON\_LINE} (\ldots\text{OBSERVATION} = \_F (\ldots)\ldots)
  \]
  \[
  \text{tabobs} = \text{RECU\_TABLE} (\text{CO} = \text{dynl}, \quad \text{NOM\_TABLE} = \text{‘OBSERVATION’})
  \]

- recovery of the parameter of piloting of one SD of type evol\_noli
  \[
  \text{stnl} = \text{STAT\_NON\_LINE} (\ldots\text{PILOTING} = \_F (\ldots)\ldots)
  \]
  \[
  \text{etapilo} = \text{RECU\_TABLE} (\text{CO} = \text{stnl}, \quad \text{NOM\_PARA} = \text{‘ETA\_PILOTAGE’})
  \]