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## Procedure IMPR\_RESU\_SP

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### 1 Goal

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This procedure makes it possible to write fields at the under-points in an exploitable file by Salomé\_Méca/Paraview to be able to visualize them.

There exists in *Code\_Aster* elements under-points: multifibre beams, multi-layer hulls, grids, elements pipes. To calculate the position of the under-points, it is necessary to exploit the concept resulting from AFFE\_CARA\_ELEM.

*Code\_Aster* record the necessary information in file with MED who is currently not dealt with by the reader MED integrated into the Salomé\_Méca platform.

The role of the order IMPR\_RESU\_SP is to manufacture files with the format vtk, which can be directly exploited by Paraview, while waiting for that the reader MED takes into account information concerning the under-points.

The order IMPR\_RESU\_SP built:

- a geometry of the type POI1, which corresponds to the position of the under-points in the total reference mark.
- fields corresponding at the request of the user.

## 2 Syntax

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```
IMPR_RESU_SP (
  # SD result
  ◆ RESULT      = resu,                               [evol_noli]
  #
  ◇ / NUME_ORDRE = nume_ordre,                         [l_entier]
  / INST        = inst,                               [l_réel]
  / LIST_INST   = l_inst,                             [listr8]
  #
  ◆ GROUP_MA    = grp_ma,                             [l_gr_maille]
  #
  ◆ RESU = _F (
    ◆ NOM_CHAM   = ['SIEF_ELGA' | 'VARI_ELGA',
                   'SIGM_ELGA' | 'SIEQ_ELGA']          [nom_champ]
    ◆ NOM_CMP    = nom_cmp,                             [k16]
    ◆ UNIT       = unit,                               [entirety]
  )
)
```

## 3 Operands

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### 3.1 Operand RESULT

The operand `RESULT` indicate the concept in which are the fields at the under-points that one wishes to visualize.

### 3.2 Operands NUME\_ORDRE, INST, LIST\_INST

Cf document [U4.71.00].

### 3.3 Operand UNIT

The unit of the archive defines which is of type "tar". If the option "C" is notched in "astk" the archive is of the type "tar.gz". This archive must be decompressed before being read by Salomé\_Méca/Paraview, which cannot treat the files of the type "tar".

So that the utilities of extractions which exist on the various operating systems recognize the type of the file, it is advised to choose the extension "tar" for the not compressed archives and "tar.gz" for the compressed archives.

Example of order "die-to file":

- For a compressed archive: tar - xzf mon\_fichier.tar .gz
- For a not compressed archive: tar - xf mon\_fichier.tar

### 3.4 Operand GROUP\_MA

Allows to define the list of the groups of meshes concerning the elements under-points which one wishes to visualize.

## 4 Keyword RESU

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This keyword factor makes it possible to give the various fields and the components which one wishes to visualize.

Checks of coherences are carried out on the nature of the fields and their components, which can relate to only the elements under-points.

### 4.1 Operands NOM\_CHAMP, NOM\_CMP

◆ `NOM_CHAMP` : name of the field to be visualized. That relates to only the fields of the type "ELGA" for the elements under-points.

Fields concerned: `SIEF_ELGA`, `VARI_ELGA`, `SIGM_ELGA`, `SIEQ_ELGA`.

Fields of the type "ELNO" , "NOEU" can be visualized with the order `IMPR_RESU` . with the format `MED`.

◆ `NOM_CMP` : name of the components of the field.

## 5 Example of implementation

The files used for this example are available in the installation of *Code\_Aster*, under the repertoire `src/astest`. The files are:

- `ssnl135a.comm` command file
- `ssnl135a.mmed` grid of the console
- `ssnl135a.38` cross sections
- `ssnl135a.export` parameters for `as_run`

The documentation of the case test is available on the site of *Code\_Aster* :

- [V6.02.135] SSNL135 - Determination of the loads of ruin of the console MEKELEC.

### 5.1 Launching of the study

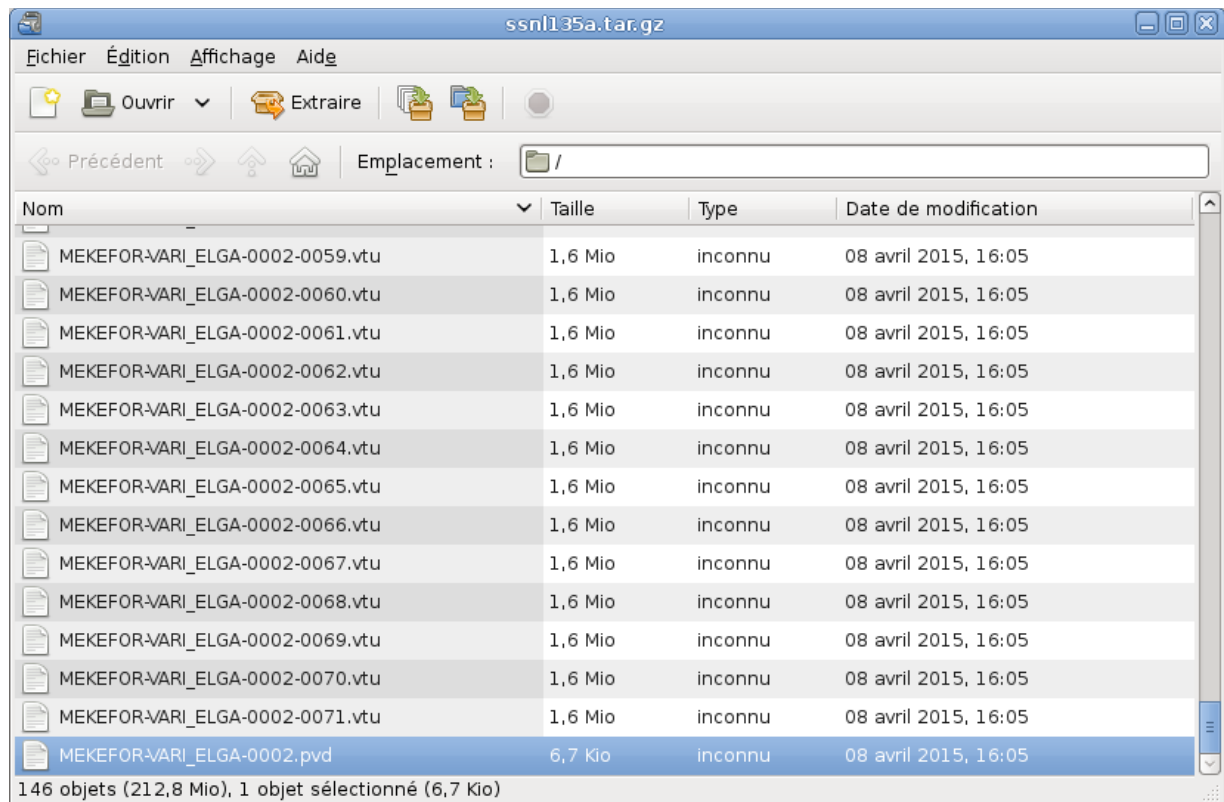
The order `IMPR_RESU_SP` already exist in the file `'.COMM'`. There is no modification to make.

On the other hand to recover the file the user must define in his profile of study the unit 10 which corresponds to the archive, if it notches 'it recovers a archive of the type `'.tar.gz'`.

Type	Serveur	Nom	UL	D	R	C
comm	Local	/src/astest/ssnl135a.comm	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mmed	Local	/src/astest/ssnl135a.mmed	20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
libr	Local	/src/astest/ssnl135a.38	38	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mess	Local	/ssnl135a.mess	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
resu	Local	/ssnl135a.resu	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
libr	Local	/ssnl135a.tar.gz	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

For its visualization under Paraview one needs 'déarchiver', with one of the orders:

- `'tar - xf monfichier.tar'` if the archive is not compressed
- `'tar - xzf monfichier.tar.gz'` if the archive is compressed.



## 5.2 Visualization in ParaView

The user can open the file 'developing country' to have the various fields at the various moments, or to open one of the 'vtu' of its choice for N' to have that only one moment and that only one field.

The image below is obtained by modifying the order IMP\_RESU\_SP, to obtain the exit on all the groups of meshes of the multifibre beams.

