

## Structure of data sd\_partition

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### Summary:

This structure of data is related to the parallelism of elementary calculations and the assemblies. It is attached to one `model` and allows to know which processor must calculate (and to assemble) which finite element.

### Remarks :

- For a sequential version of the code, this structure of data does not exist.
- If `PARALLELISME=' CENTRALISE '`, this structure of data does not exist.
- The finite elements "late" (those of the dualized loads or the loads of contact for the method "CONTINUES") all are treated by processor 0 except if `PARALLELISME=' GROUP_ELEM '`.

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## 1 Tree structure

```
sd_partition      (K8)      :: =record
(O)  '.PRTK'        :      OJB  S  V  K24  length = 2
(O)  '.PRTI'        :      OJB  S  V  I    length = 1
(F)  '.NUPROC.MAILLE' :      OJB  S  V  I  length = nb_mailles (grid) + 1
```

## 2 Contents of objects JEVEUX

### 2.1 '.PRTI' : S V I length = 1

V (1)	nbproc : many processors MPI available at the time of the creation of sd_partition
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### 2.2 '.PRTK' : S V long K24 = 2

V (1)	Type of parallelism requested by the user: / 'GROUP_ELEM' / 'SOUS_DOMAINE' / 'MAIL_CONTIGU' / 'MAIL_DISPERSE'
V (2)	Name of sd_partit if v (1) = ' SOUS_DOMAINE '

### 2.3 '.NUPROC.MAILLE' : S V I

This object is length  $nb\_ma + 1$ , with  $nb\_ma$  : many meshes of the grid subjacent with `ligrel`.

It informs about the distribution of the finite elements carried by the meshes of the grid.

V ( $nb\_ma + 1$ )	nbproc : many processors MPI available (identical to PRTI (1))
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for ima of 1,  $nb\_ma$  :

V (ima)	number of the processor (of 0 with $nbproc - 1$ ) who must treat the finite element carried by the mesh ima
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If V (ima) == -999 : the mesh ima do not carry a finite element in `ligrel`