



UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA



Dipartimento di Ingegneria
“Enzo Ferrari”

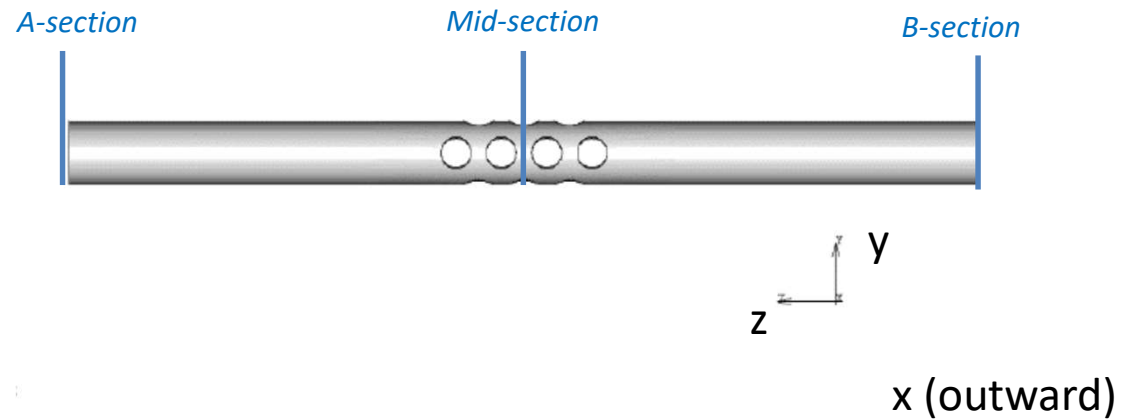
Progettazione Assistita di Organi di Macchine

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Agenda

Lightened thin-profile for *symmetric* and *skew-symmetric* analysis:

- Tensile load
- Bending moment load
- Torque
- Pressure



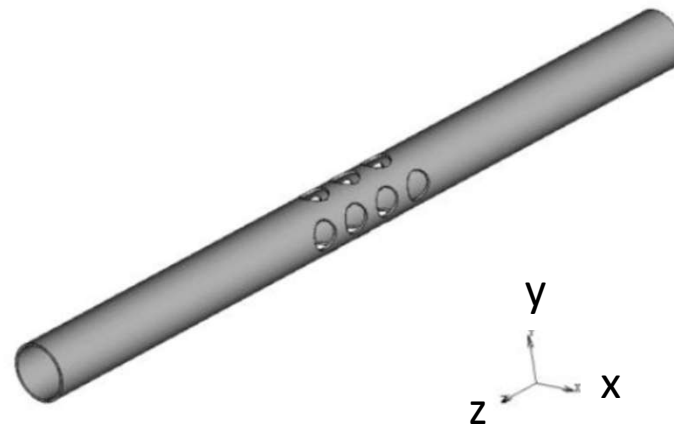
References

Agenda

Lightened profile for *symmetric* and *skew-symmetric* analysis:

- Tensile load, $F = 15.708\text{N}$
- Bending moment load, $M_{f_xx} = 37.493\text{ Nmm}$
- Torque $M_t = 74,987\text{ Nmm}$
- Pressure $p = 1\text{ MPa}$

References



Extrapolation

These commands control the manner in which element integration point data is extrapolated to the nodes of an element. In addition they control the inter-element averaging of the nodal data after it has been extrapolated.

`post_extrap_linear`

Extrapolate by averaging the integration points to the centroid of the element and then doing a linear extrapolation from the centroid through the integration point to the node.

`post_extrap_translate`

Actually do not extrapolate, but rather copy the data at each integration point to its corresponding node. In those cases where there are fewer integration points than nodes, some averaging of neighboring integration points is done.

`post_extrap_average`

The average of all the integration points is computed and assigned to the nodes. Therefore, all nodes have an equal value assigned to them.

Nodal Averaging

```
post_nodal_averaging <on/off>
```

This command toggles the averaging of element values at the nodes. Averaging is done to assure that contour lines are continuous. When it is turned off, each element is independently contoured and contour lines usually will appear discontinuous.

References

FE models:

tubo_sforacchiato_allungato_rev0.mud → Starting model

tubo_sforacchiato_allungato_svolto.mfd → Model with solutions