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Session 6: Vibro-Acoustic Finite Element Simulation

Exercise 1:

In this first exercise, you will compute the vibro-acoustic transmission of a plate exposed to the pressure waves generated by a spherical source. Follow the workshop *Baffled_plate_transmission.pdf*. Compute the transmission loss and the pressure at a specific microphone.

Plot also the deformation and pressure field at some specific peak / minima of the TL and SPL curves.

Exercise 2:

Perform the vibro-acoustic response of a plate-cavity system. The plate is based on Session 4 model and can be used as starting point. The cavity is based on the Session 5 model (0.75m x 0.4m x 0.65m). Proceed as specified in the workshop: *TP6_Coupled_plate_cavity.pdf*

Compare the vibration of the plate with and without the presence of the cavity.

Observe and comment the response of the microphone inside the cavity.

Observe the behavior (color maps and deformation) at the first peaks value.