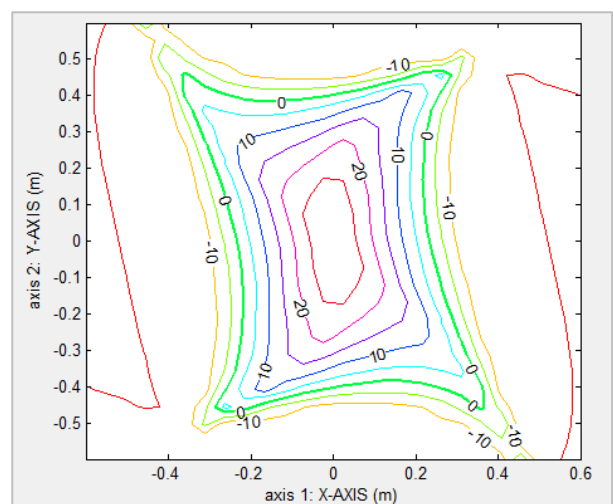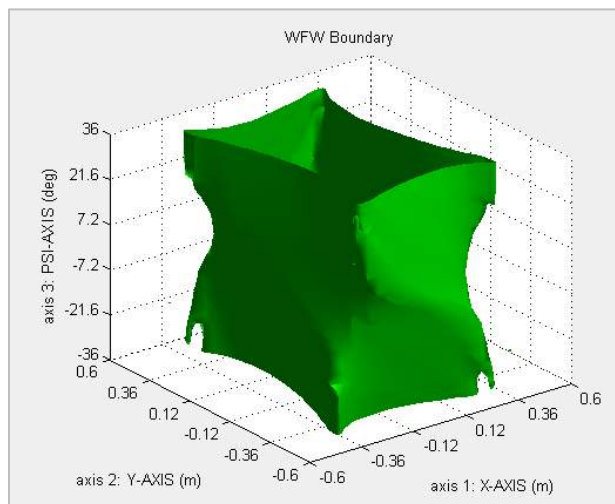# User Manual: Section Posture Parameters

FORMAT: # (single numbers) or [#,#] (intervals)

3. Specify the platform pose parameters (X Y Z convention)

Notation	Meaning	Valid Entries:
p_x	Position Platform	Values should be real (whole/decimal and positive/negative/zero) numbers
p_y		
p_z		
phi (x-axis)	Orientation Platform	Values should be real (whole/decimal and positive/negative/zero) numbers
theta (y-axis)		
psi (z-axis)		
reso	Parameter resolution	Values should be real (whole and positive) A resolution may exist only if the corresponding posture parameters is specified by an *interval*

Through ARACHNIS two types of workspaces are possible 3D or 2D workspaces:

Planar Robot: Acceptable sets of posture parameters. (Note: For point mass robots orientation is trivial thus the angles can be left empty or with an arbitrary value).

Planar Robot Type	3D: Total Orientation Workspace	2D: Constant Orientation Workspace
	Parameters to be specified	
ROBOT XY PLANE	PX PY PSI	PX PY PSI (constant)
ROBOT XZ PLANE	PX PZ THETA	PX PZ THETA(constant)
ROBOT YZ PLANE	PY PZ PHI	PY PZ PHI(constant)

Spatial Robot: All possible combinations of different posture parameters are acceptable.

Note: For *planar robots* specify the parameters according to the cases described above, the other fields may be left with or without entries since ARACHNIS only processes each case specific entries.

For *spatial robots* all entries must be specified.

Note: To obtain a 2D workpace at least three parameters should be varied (entries specified by intervals). To obtain a 3D workspace at least two parameters should be varied.

4. Specify a posture variable for each axis of the workspace plot

Once the posture parameters have been specified choose the axis corresponding to each of the varying posture parameters. For a 2D workspace choose two axes and for a 3D workspace choose 3 axes with different parameters.

Note: In the case of *planar robots* the pop-up menus will only enable if the posture parameters were entered according to the acceptable planar cases.

For *spatial robots* the pop-up menus will be enabled for any combination of posture parameters.