

# ANSYS 实体建模





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- CALLER RELECTED. SUBJECTIONNESS, N. N. . RAINE, AND. AND. RANK

图元: 点、线、面、体 图元的等级:由低至高 => 点、线、面、体 要点:修改图元必须由低至高 删除图元必须由高至低



几何模型的定位和创建可基于三种坐标系 CS (Coordinate system)

工作平面坐标系(Working Plane CS)
全局坐标系(Global CS)

■ 局部坐标系(Local CS)



#### 工作平面坐标系(Working Plane CS)

### 工作平面的设置和定义



Display Working Plane Show WP Status WP Settings		
Offset WP by Increments Offset WP to Align WP with	· •	
Change Active CS to	•	Global Cartesian
Change Display CS to	•	Global Cylindrical
Local Coordinate Systems	•	Global Cylindrical Y
	1	Global Spherical
		Specified Coord Sys Working Plane

	C作平面设置	I AN <mark>SYS</mark>
栅格显示控制面板	P Settings Cartesian Polar Grid and Triad Grid Only Grid Inly	工作平面的显示方式
网格调整控制面板	C Triad Uniy I Enable Snap Snap Incr 0.05 Snap Ang 5 Spacing 0.1	捕捉控制面板
	Minimum  -1 Maximum  1 Tolerance 0.003 OK Apply Reset Cancel	

#### 工作平面的移动和旋转



### 全局坐标系 (Global CS)

ANSYS

#### 全局坐标系是整个模型不变的参考坐标系。 它可以是直角坐标系 (Cartesian system 0)、柱坐标系 (cylindrical system 1) 或球坐标系 (spherical system 2)。







## 局部坐标系(Local CS) ANSYS

- 用户在特定位置创建的坐标系称为局部坐标系。
- 局部坐标系可以是直角坐标系 (Cartesian system 0)、柱 坐标系 (cylindrical system 1) 或球坐标系 (spherical system 2)。
- 局部坐标系绕X、Y、Z 轴转动.
- 定义局部坐标系:
  - Utility Menu: WorkPlane > Local Coordinate Systems > Create Local CS

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• ESTIMATION AND AND AND A STREAM



∧ Symbols	
[/PBC] Boundary condition symbol	
	All BC+Reaction
	C All Applied BCs
	C All Reactions
	C North
	, None
	( For Individual:
Individual symbol set dialog(s)	Applied BC's
to be displayed:	✓ Reactions
	V Miscellaneous
[/PSF] Surface Load Symbols	None
Visibility key for shells	L Off
Plot symbols in color	E De
Shar area and connect or	
Show pres and convect as	Face outlines
[/PBF] Body Load Symbols	None
Show curr and fields as	Contours
[/PICE] Elen swit Cond Symbols	
	hone
[/PSYMB] Other Symbols	
CS Local coordinate system	☐ Off
NDIR Nodal coordinate system	□ Off
ESTS Element coordinate sys	□ Off
LDIV Line element divisions	Weshed 💌
LDIR Line direction	□ Off
	1
OK Cancel	Help





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LIST ALL SORT TABL	SELECTED NO	NODE NODE	0				11.
NODE	x	Y	z	THEY	THYZ	THEX	
1	3.0000	0.0000	0.0000	0,00	0.00	0.00	
Z	3.0000	1.0000	0.0003	0.00	0.00	0.00	
3	3.0000	0.0000	3.0000	0.00	0.00	0.00	

■ 这些坐标都用显示坐标系(DSYS)表示。



坐标系 — 总结



- 结果坐标系 用于显示和解释结果
- 显示坐标系 用于显示各坐标值列表





线的生成与修改



#### 选项- 创建线的功能

#### Main Menu : Preprocessor > -Modeling- ...Create > -Lines





选项-生成面的功能 Main Menu: Preprocessor > -Modeling- ... Create > -Areas-









由底向上建模:按点、线、面、体顺序由低级
图元起形成几何实体;





# 布尔运算 Booleans









## - A1-A2-A3 - A3 6合氯苯所有菌的欲域,不再有氧氮苯合并。



Subtract——减运算



# Subtract——减操作,相减结果是相同维数的几何元素或者低维的几何元素,重叠部分被减掉



Intersect——交运算



Common:通用求交运算, 求出所有图元的公共部分





# Intersect——相交,是生成新图元,它们是原图元间的重叠部分。

#### Pairwise: 两两求交运算,求出任两个图元的公共部分



Divide——切分



🖃 Divide > Volume by Area Volu by TrkPlane Area by Volume Area by Area ନ Area by Line Area by TrkPlane > Line by Volume > Line by Area A Line by Line > Line by TrkPlane Line into 2 Ln's A Line into M Ln's > Lines w/ Options **Tith Options** 



**MNSYS** 



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