

应力分析报告

Autodesk®

分析的文件:	3368-ALT 渣罐更新-sheme1-1--2016-02-17 Rev8.ipt
Autodesk Inventor 版本:	2012 (Build 160160000, 160)
创建日期:	2016/2/22, 16:03
分析作者:	新乡市长城铸钢有限公司
概要:	

项目信息 (iProperty)

分析:1

常规目标和设置:

设计目标	单点
分析类型	静态分析
上次修改日期	2016/2/22, 15:48
检测并消除刚体模态	否

高级设置:

平均元素大小(模型直径的分数)	0.1
最小元素大小(平均大小的分数)	0.2
分级系数	1.5
最大转角	60 deg
创建弯曲网格元素	是

材料

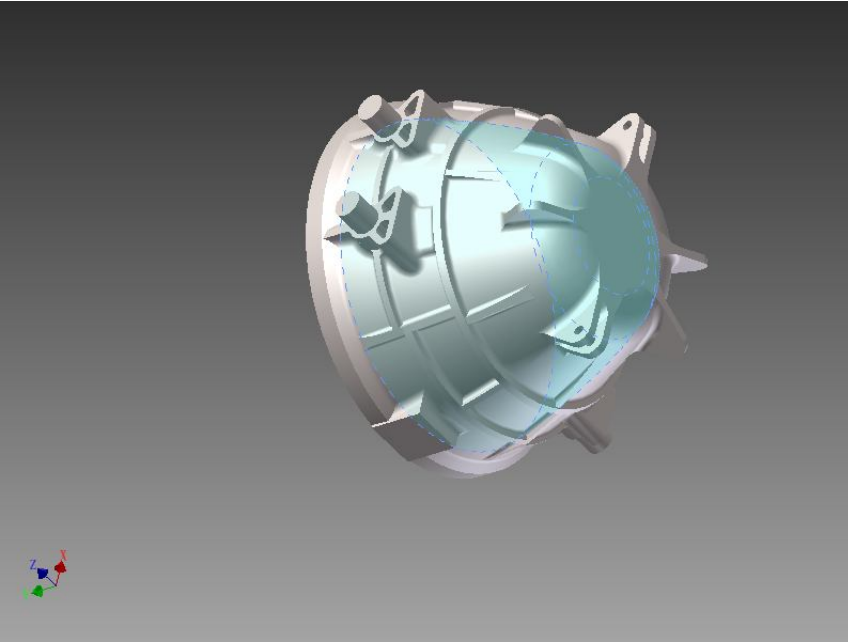
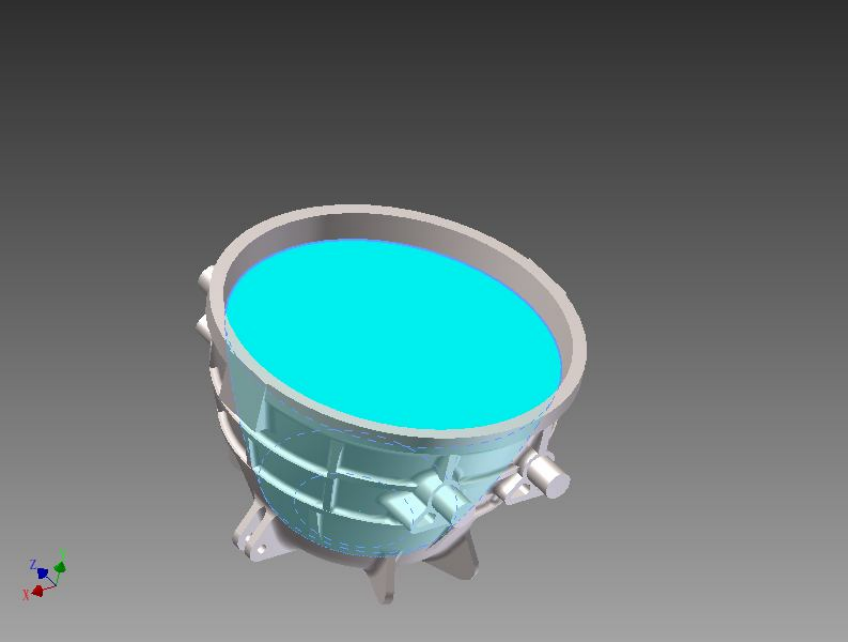
名称	铸钢	
常规	质量密度	7.85 g/cm ³
	屈服强度	250 MPa
	极限拉伸强度	300 MPa
应力	杨氏模量	210 GPa
	泊松比	0.3 ul
	切变模量	80.7692 GPa
应力热膨胀	膨胀系数	0.000012 ul/c
	热传导率	50 W/(m K)
	比热	460 J/(kg c)
零件名称	3368-ALT 渣罐更新-sheme1-1--2016-02-17 Rev8.ipt	

运行状况

力:1

载荷类型	力
大小	375000.000 N
顶点 X	0.000 N
顶点 Y	-375000.000 N
顶点 Z	0.000 N

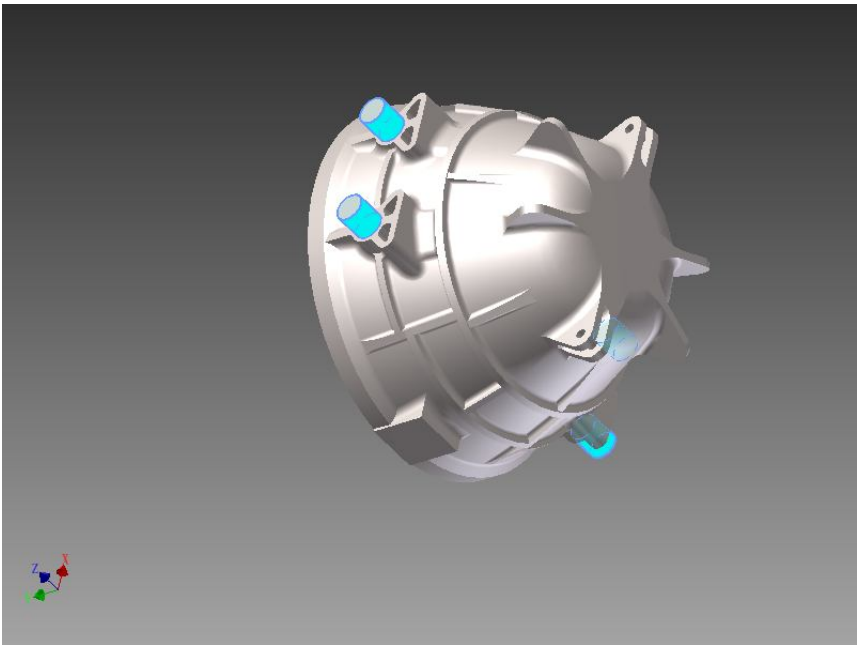
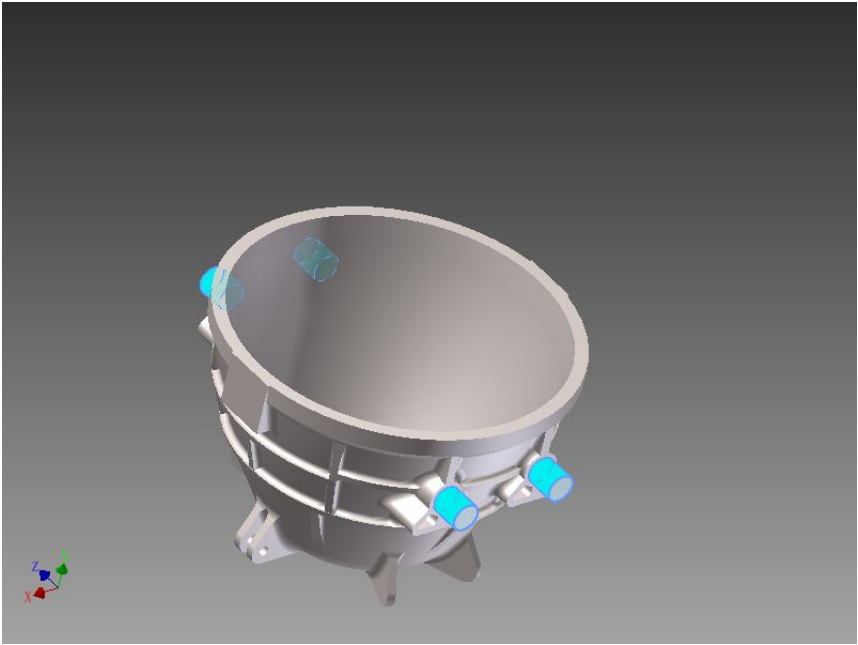
☐ 选择的面



☐ 固定约束:1

约束类型 固定约束

☐ 选择的面



▣ 结果

▣ 约束上的反作用力和力矩

约束名称	反作用力		反作用力矩	
	大小	零部件(X,Y,Z)	大小	零部件(X,Y,Z)
固定约束:1		0 N		0 N m
	375000 N	375000 N	0 N m	0 N m
		0 N		0 N m

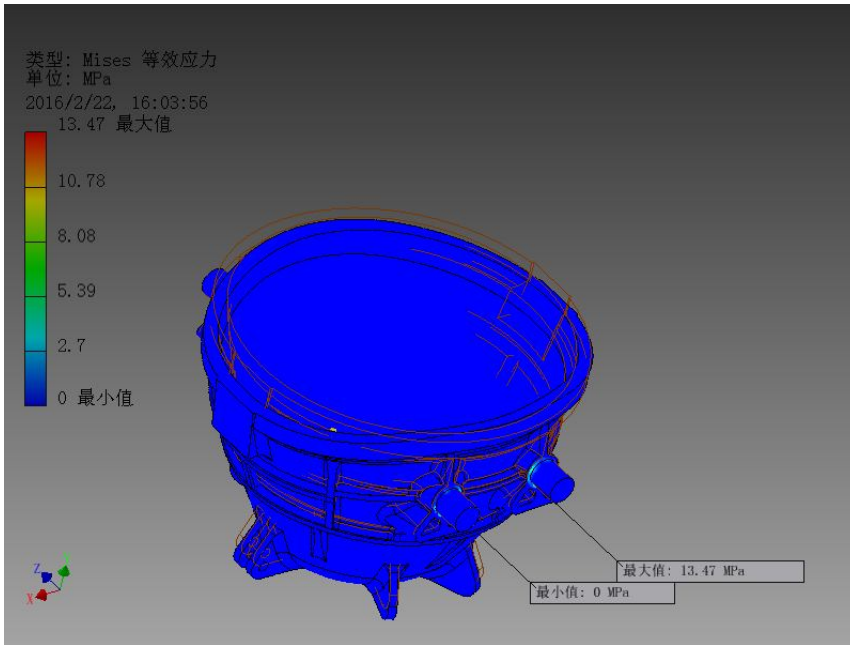
▣ 结果概要

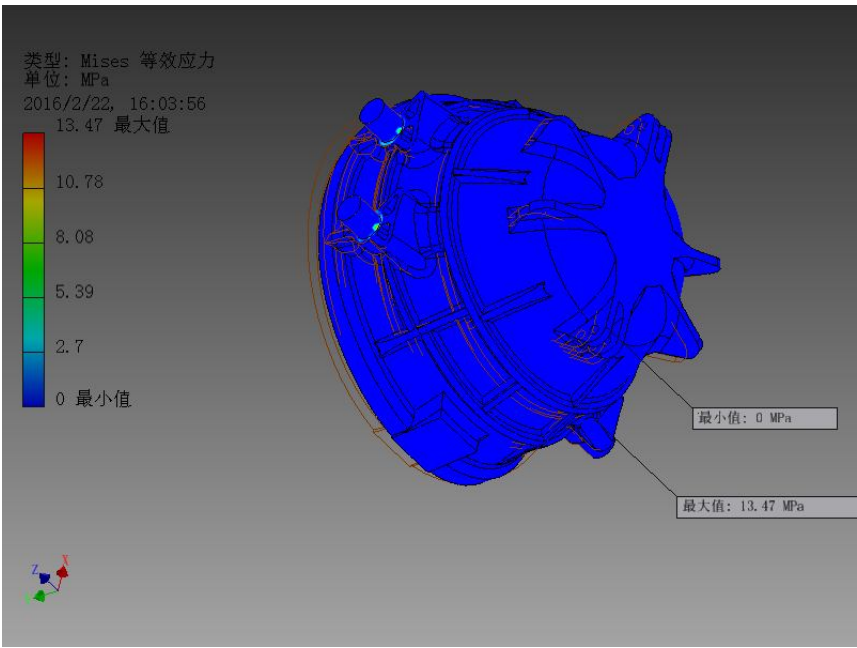
名称	最小值	最大值
体积	3.9265E+009 mm^3	
质量	30823 kg	
Mises 等效应力	0.00156178 MPa	13.4728 MPa
第一个主应力	-1.06488 MPa	6.79736 MPa
第三个主应力	-13.9513 MPa	2.54898 MPa
位移	0 mm	0.018351 mm
安全系数	15 ul	15 ul
应力 XX	-6.0371 MPa	4.2355 MPa

应力 XY	-3.13315 MPa	3.23485 MPa
应力 XZ	-4.70878 MPa	2.74362 MPa
应力 YY	-2.42972 MPa	4.07564 MPa
应力 YZ	-2.05795 MPa	2.85216 MPa
应力 ZZ	-11.9295 MPa	6.76871 MPa
X 位移	-0.00930908 mm	0.00926884 mm
Y 位移	-0.0158146 mm	0.0000178112 mm
Z 位移	-0.0100772 mm	0.0100667 mm
等效应变	0.00000000644769 ul	0.0000568151 ul
第一主应变	0.00000000367372 ul	0.0000337128 ul
第三主应变	-0.0000621013 ul	-0.00000000283453 ul
应变 XX	-0.0000187922 ul	0.0000152894 ul
应变 XY	-0.0000193957 ul	0.0000200253 ul
应变 XZ	-0.0000291496 ul	0.0000169843 ul
应变 YY	-0.0000125367 ul	0.0000291549 ul
应变 YZ	-0.0000127397 ul	0.0000176562 ul
应变 ZZ	-0.0000495853 ul	0.0000246215 ul

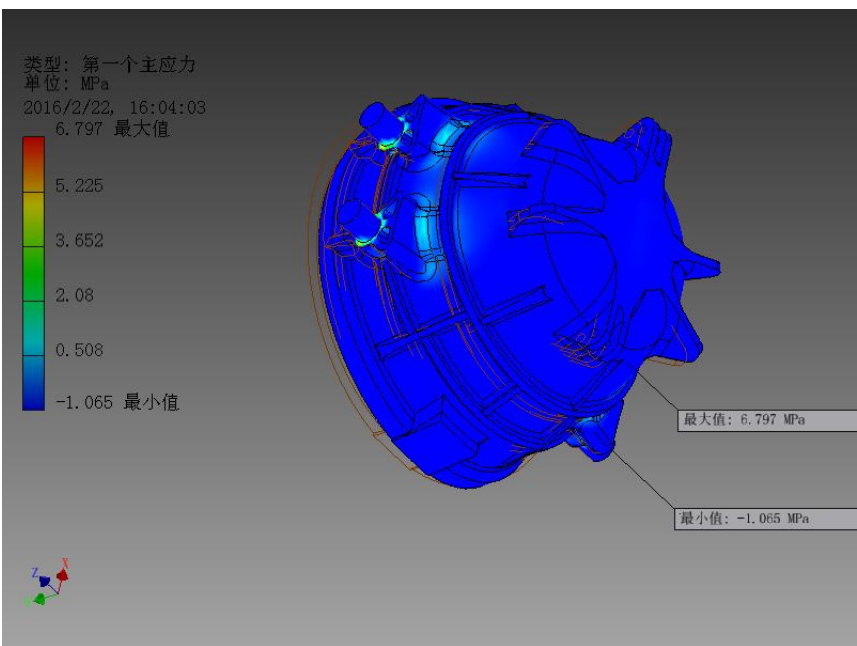
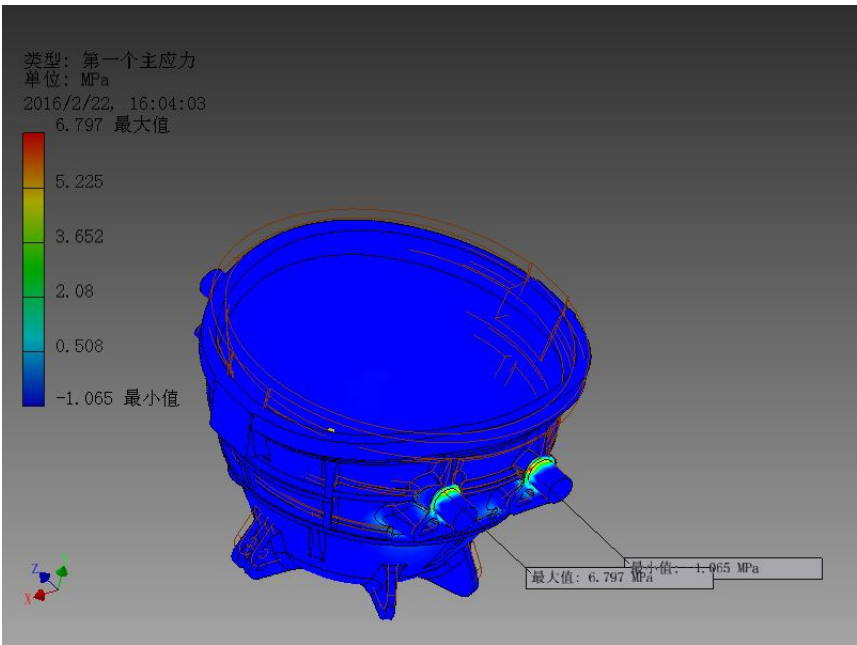
图形

Mises 等效应力

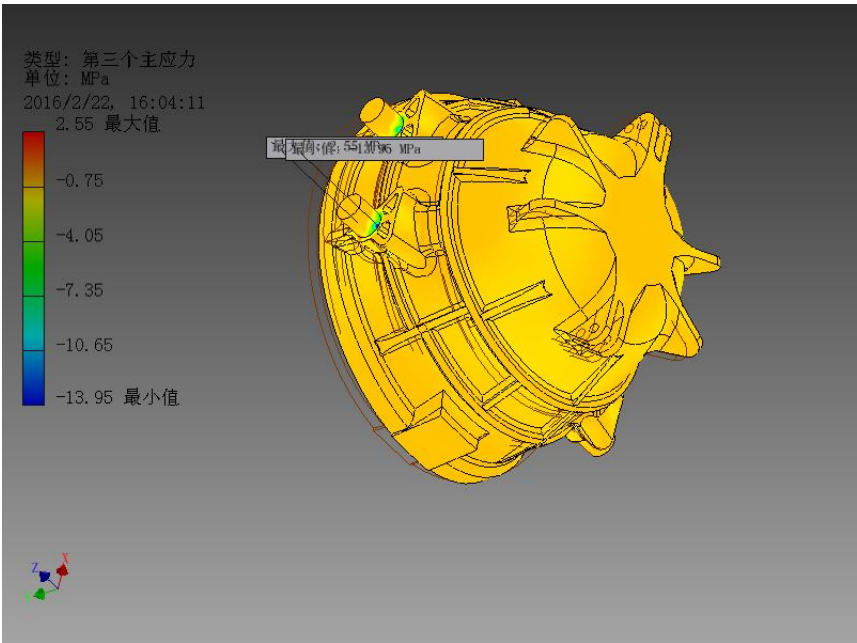
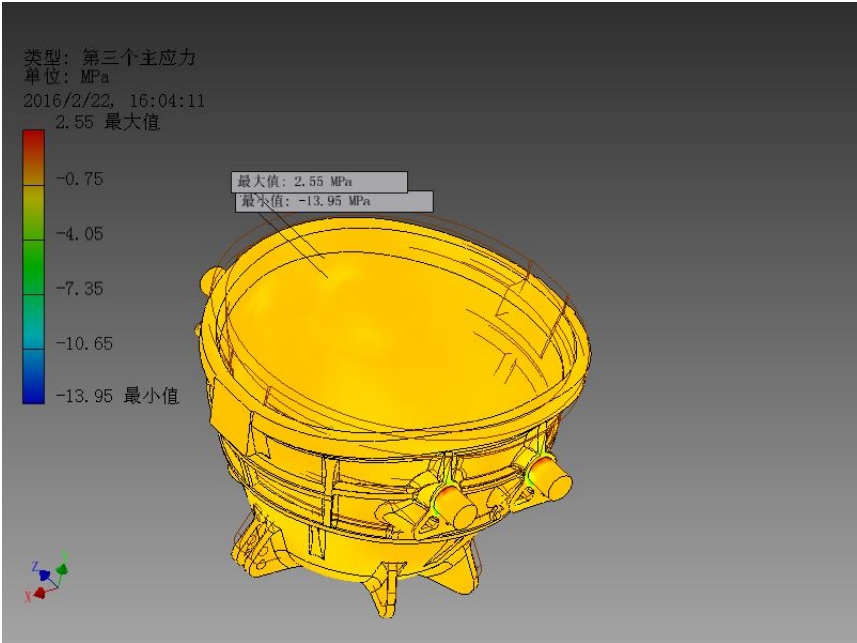




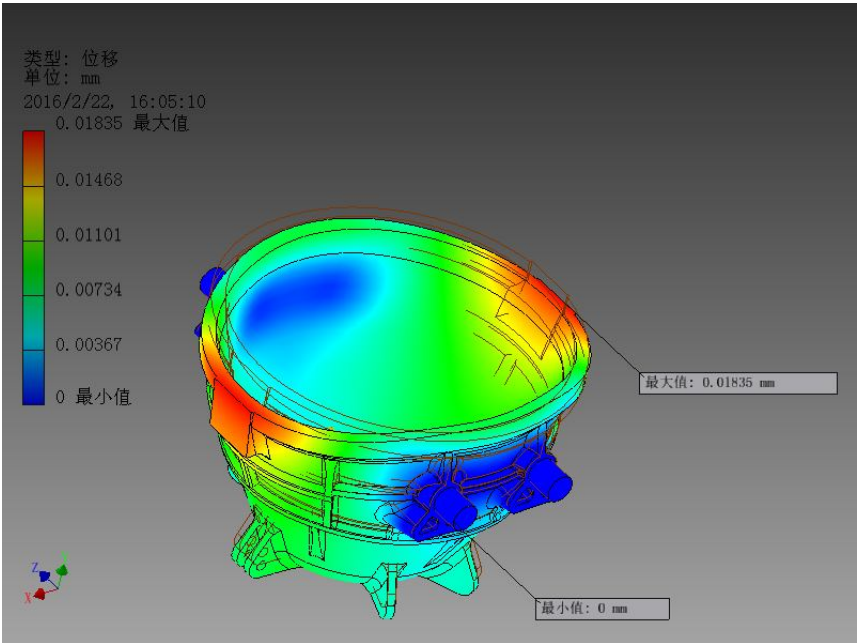
☐ 第一个主应力

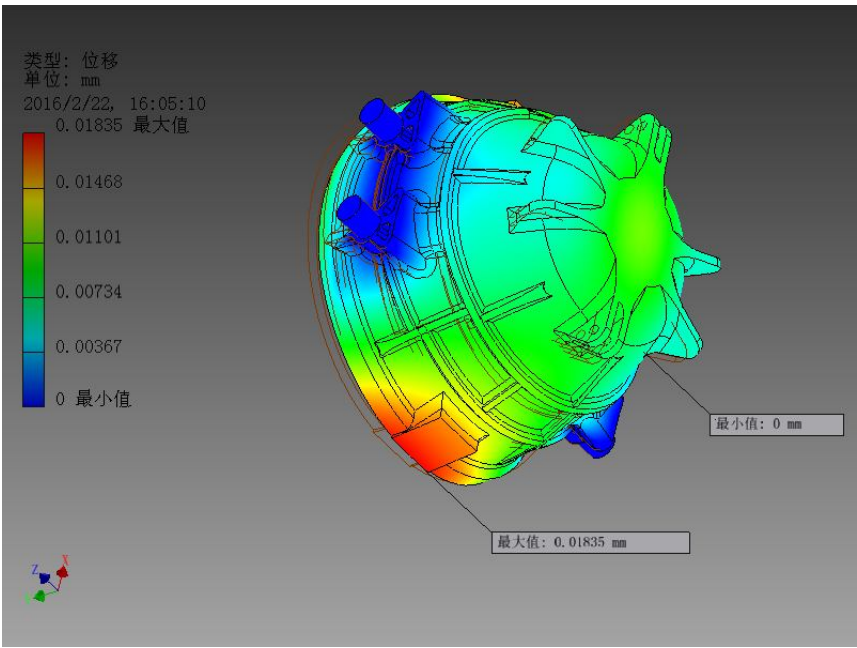


第三个主应力

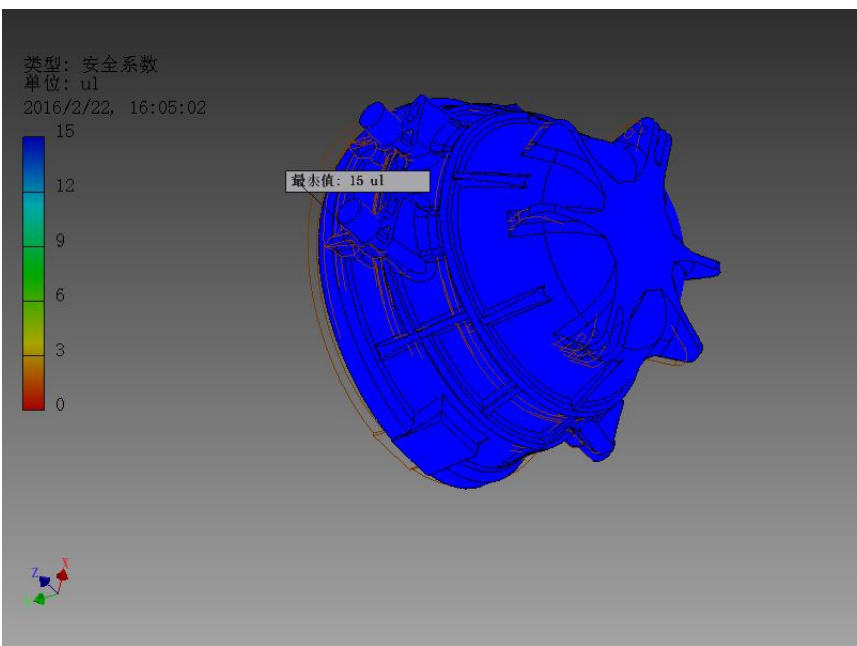
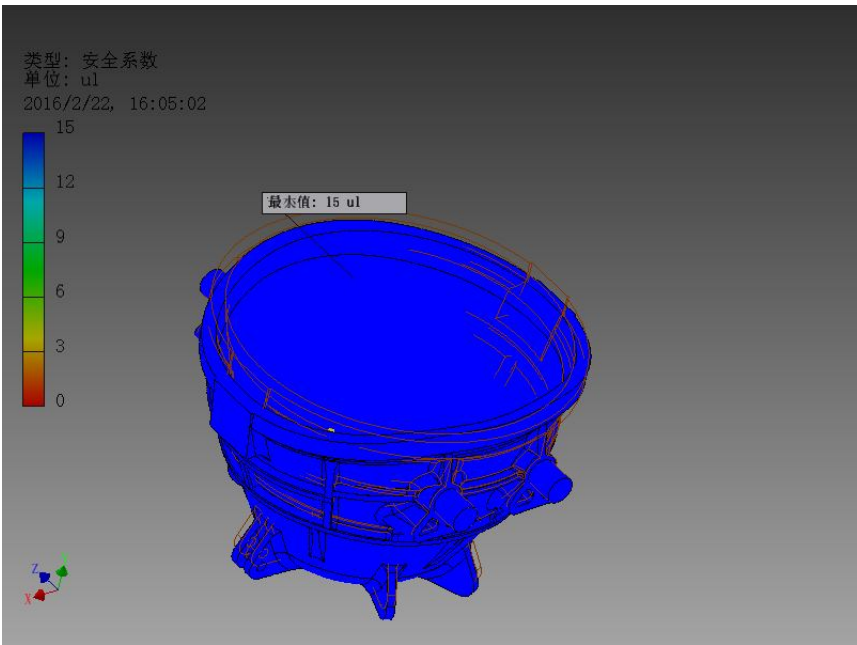


位移

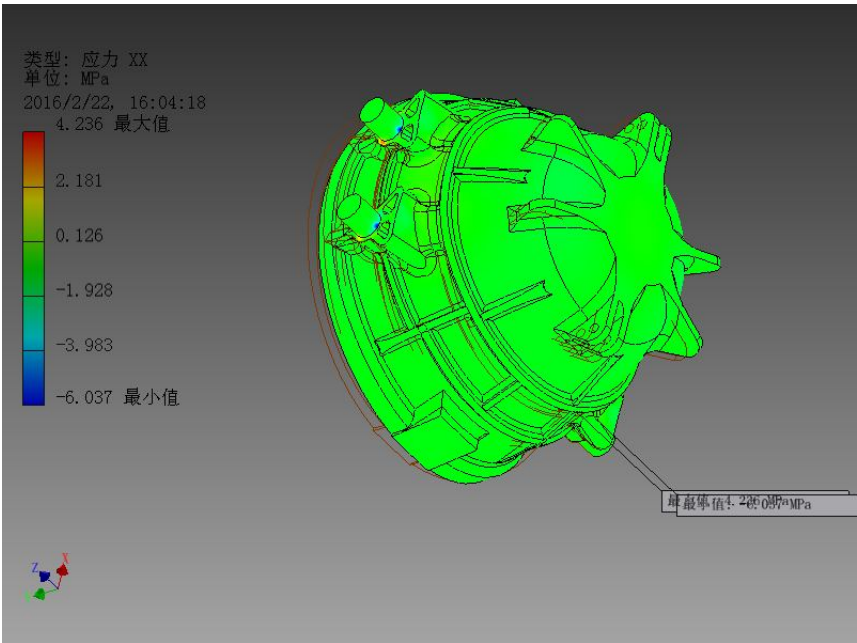
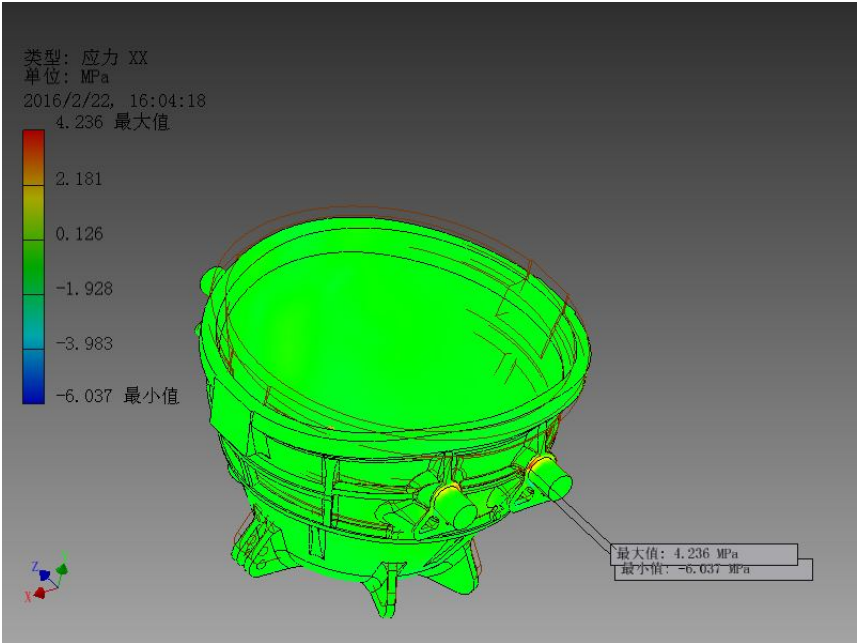




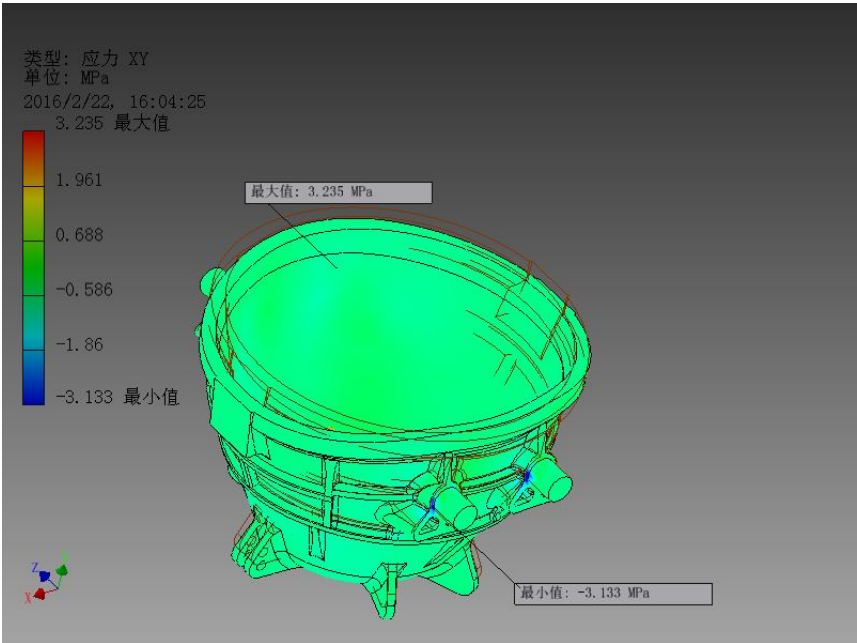
安全系数

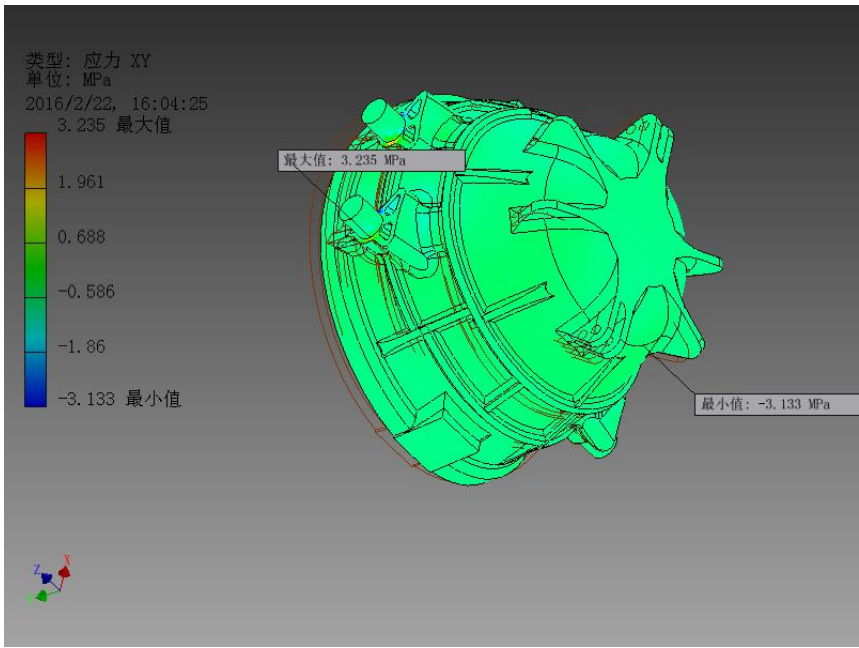


应力 XX

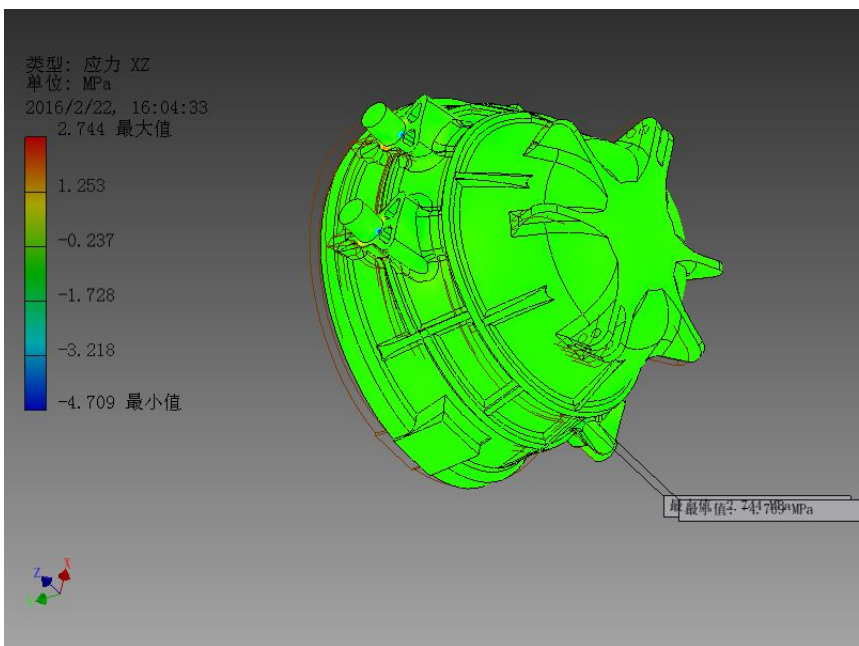
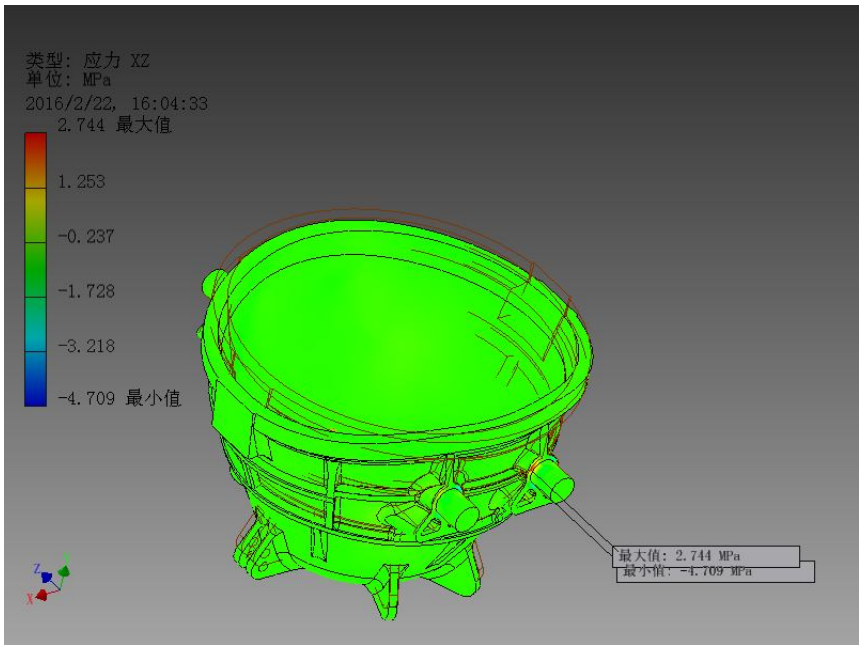


应力 XY

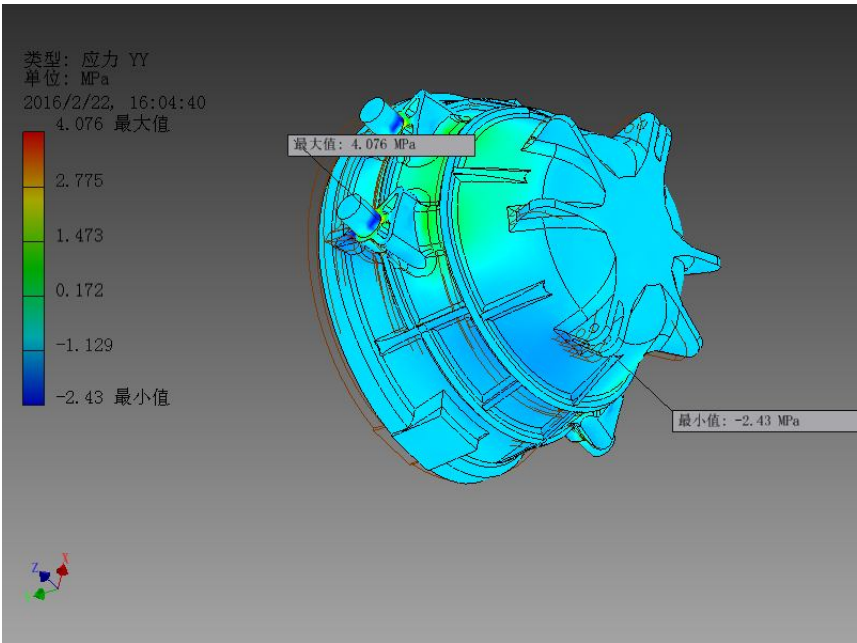
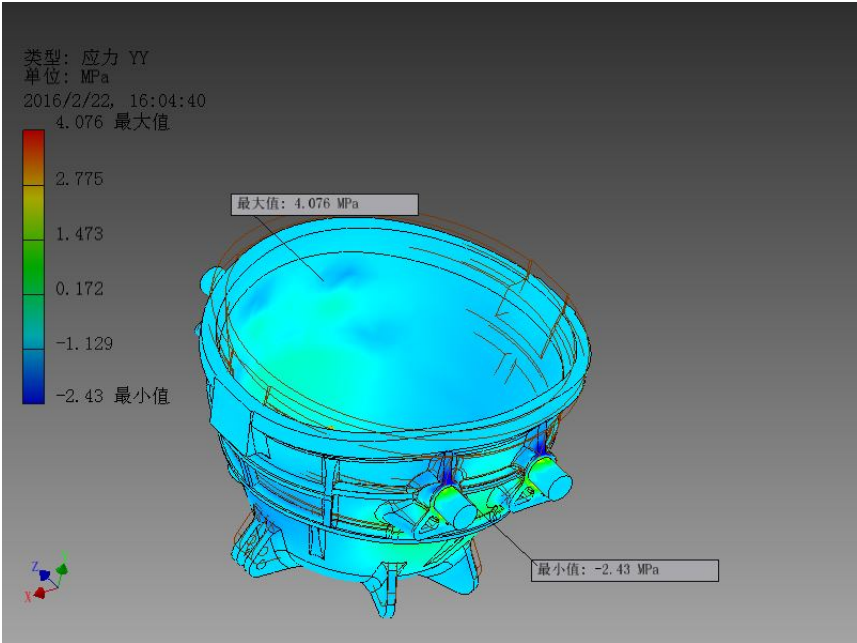




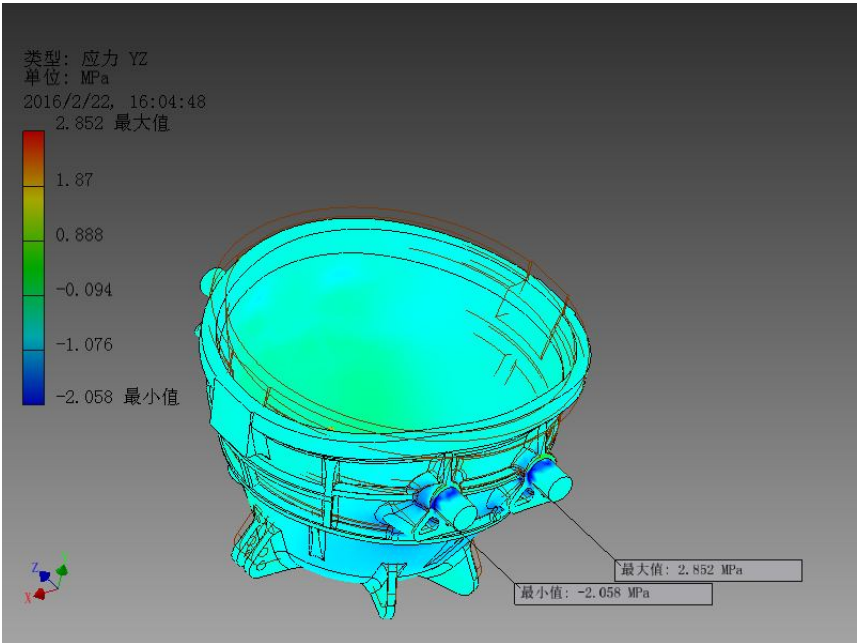
应力 XZ

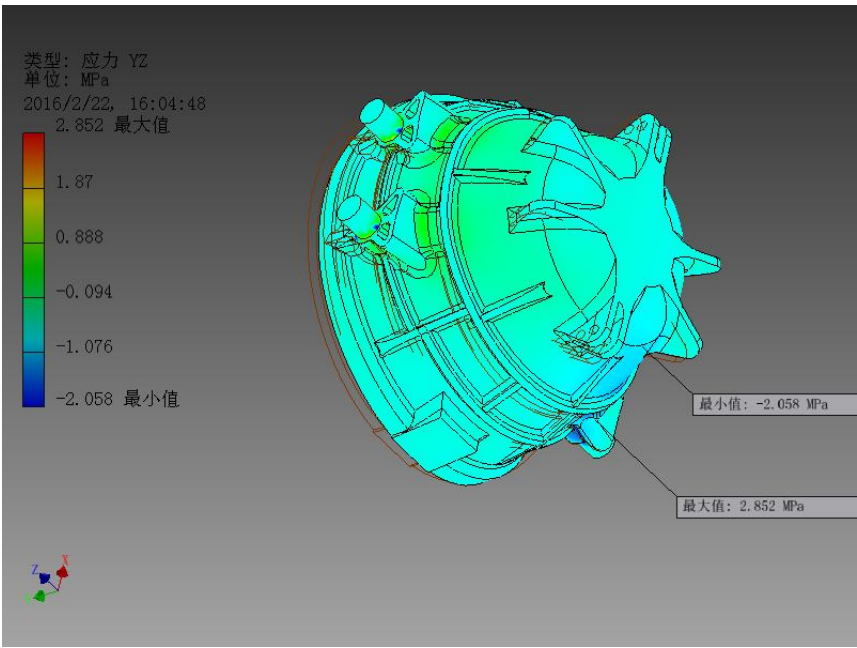


应力 YY

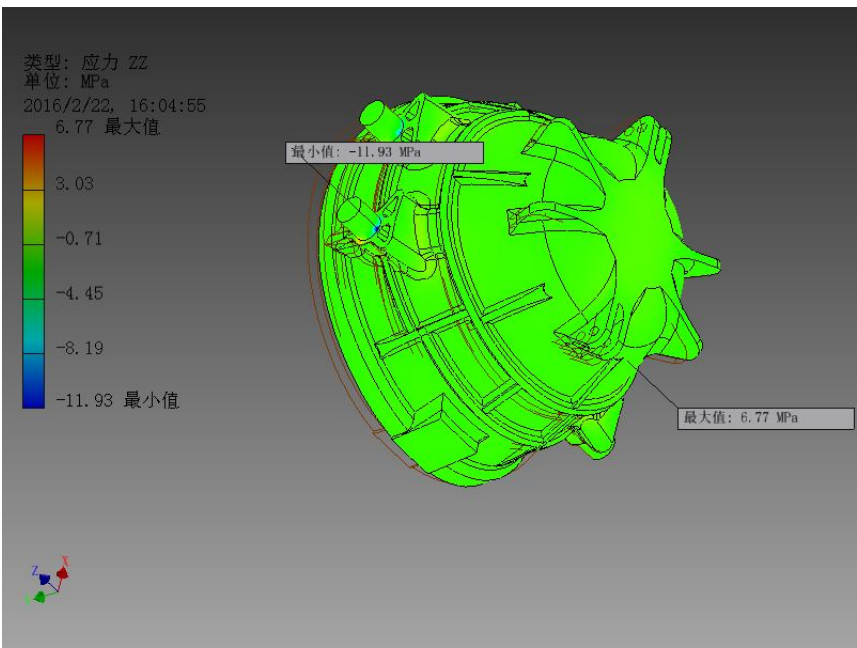
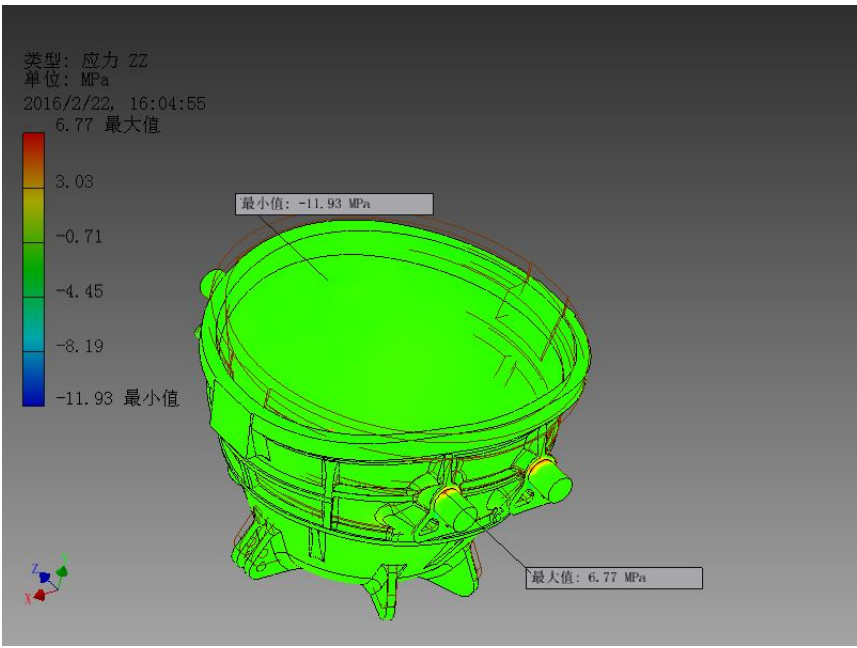


应力 YZ

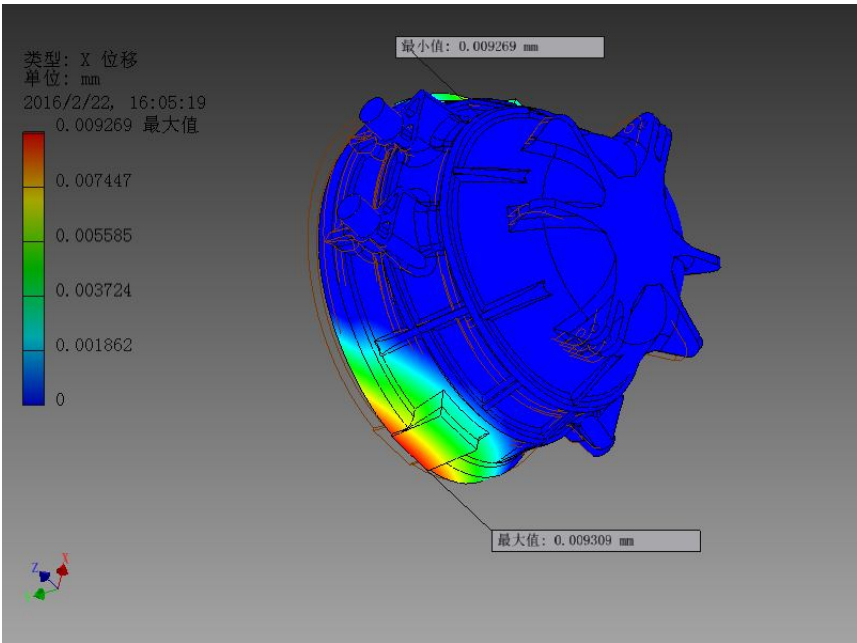
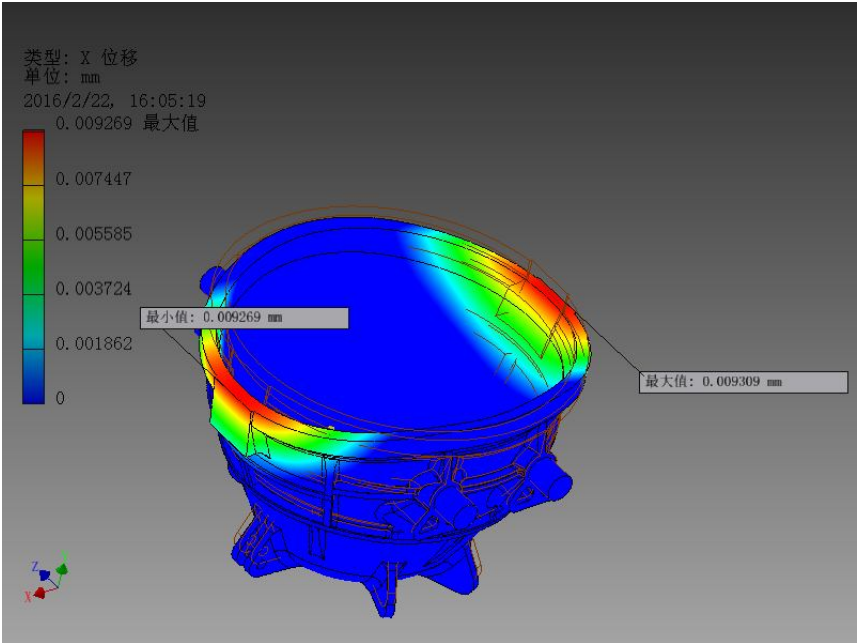




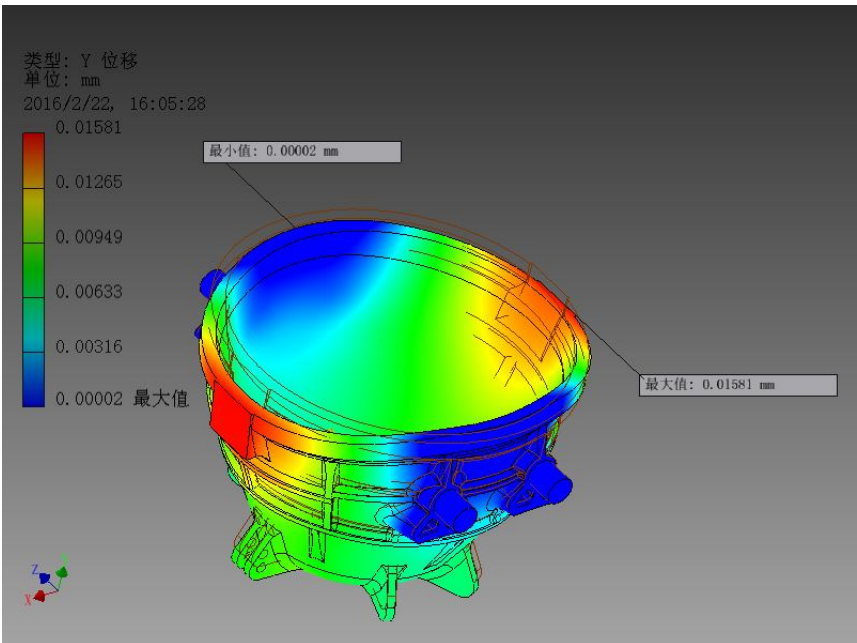
应力 ZZ

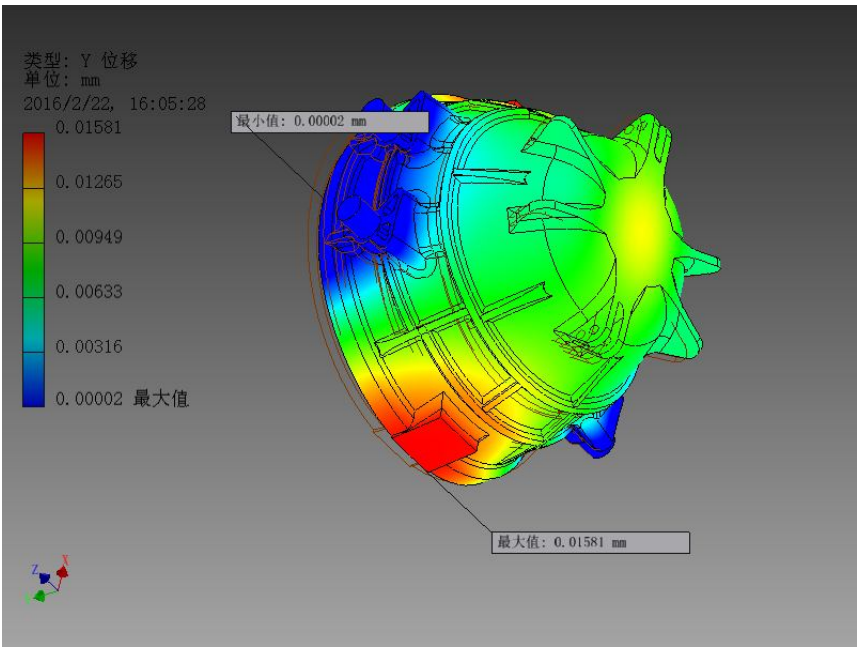


☐ X 位移

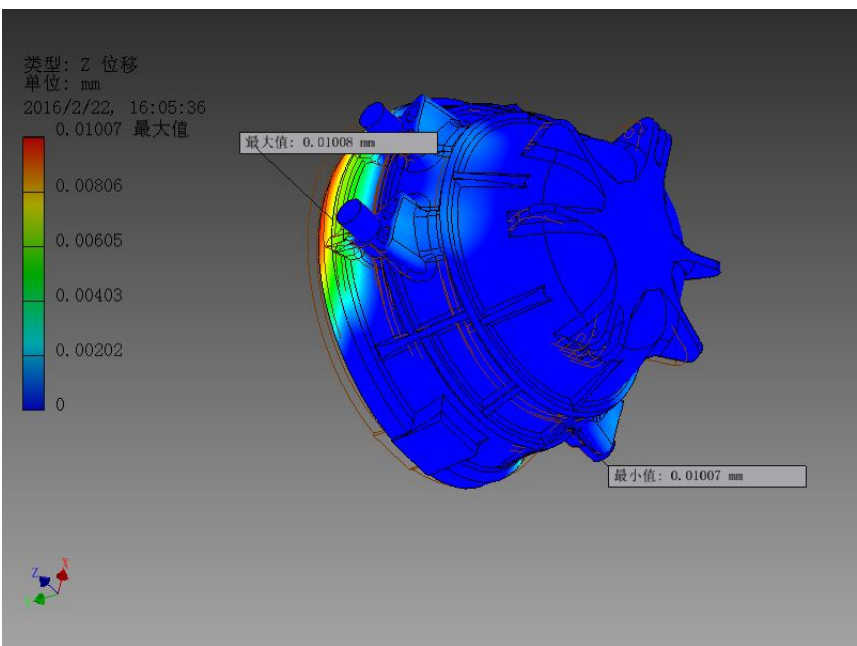
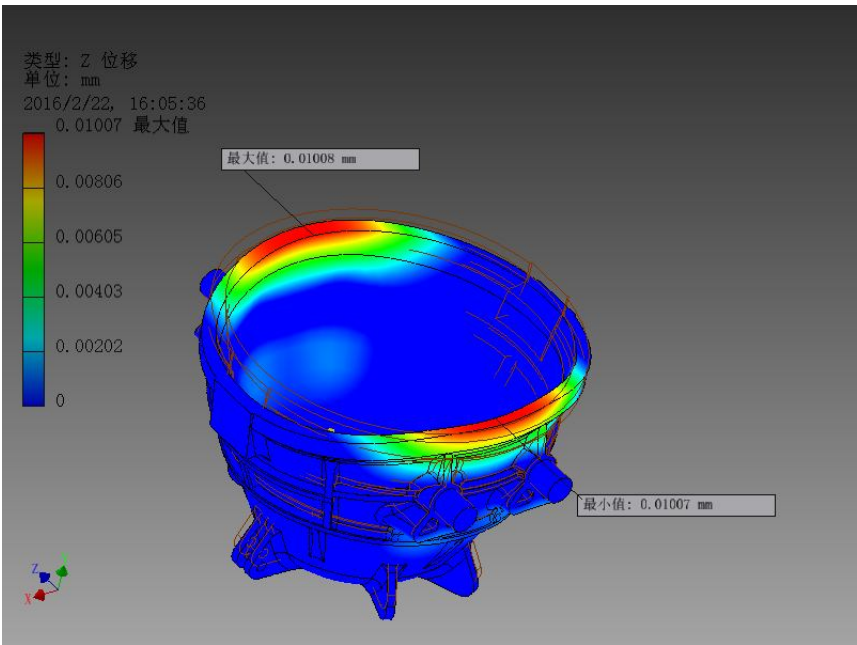


☐ Y 位移

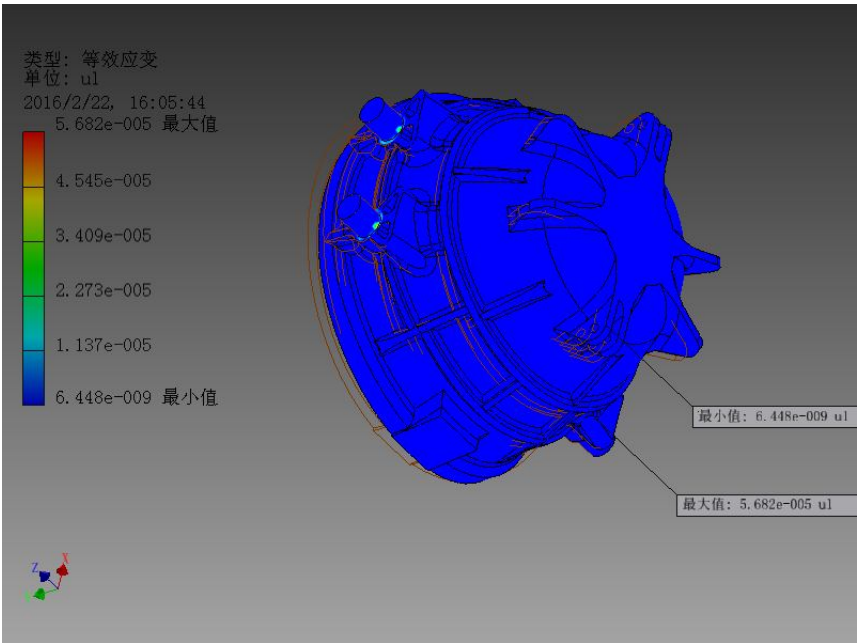
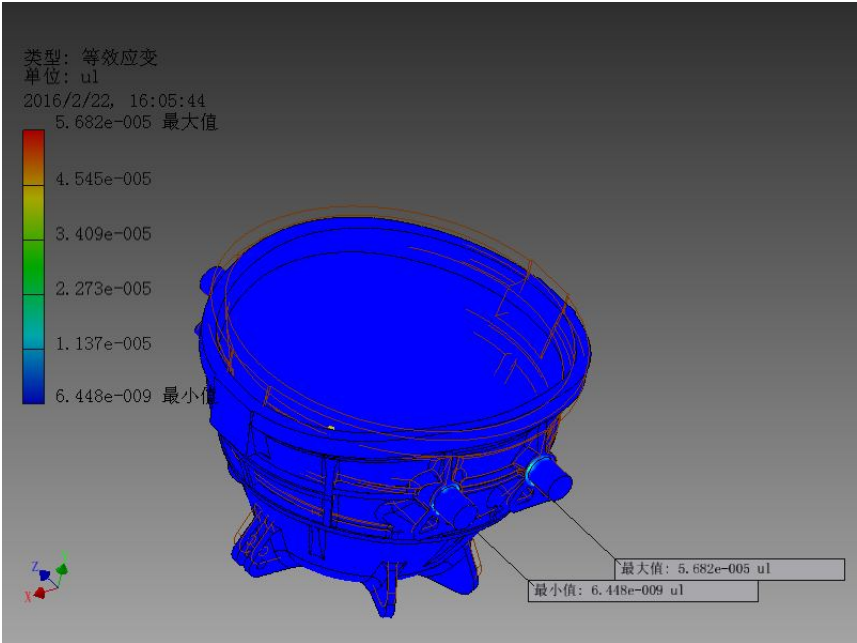




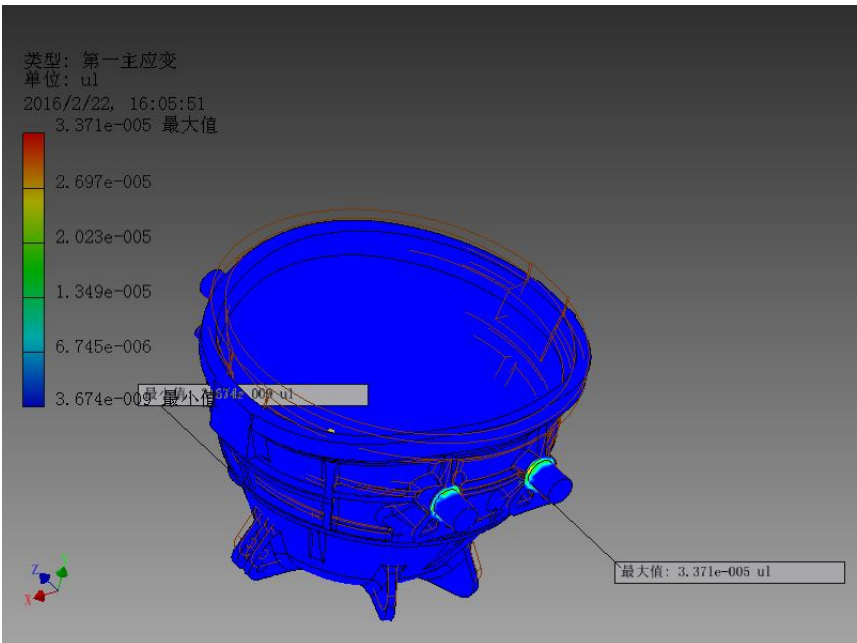
▣ Z 位移

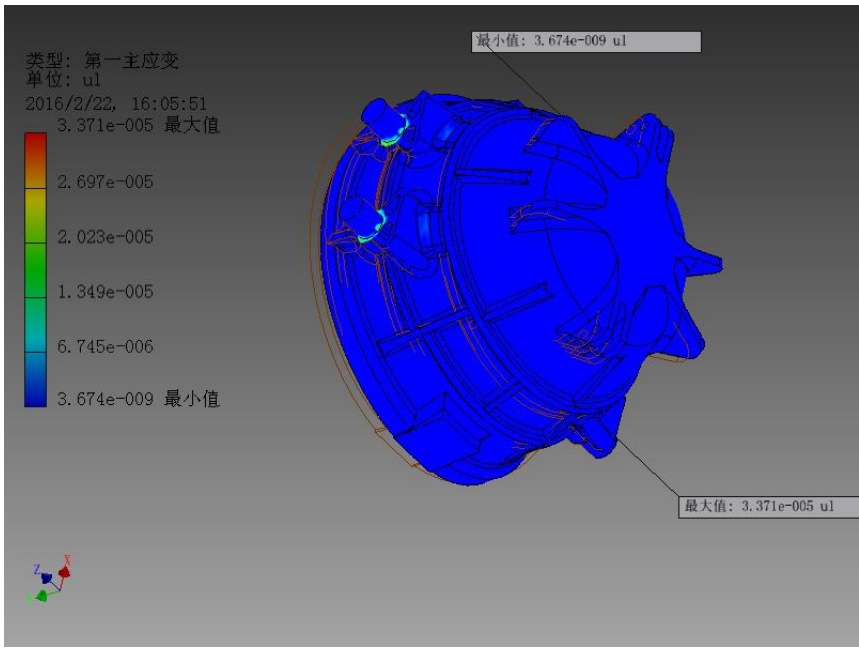


☐ 等效应变

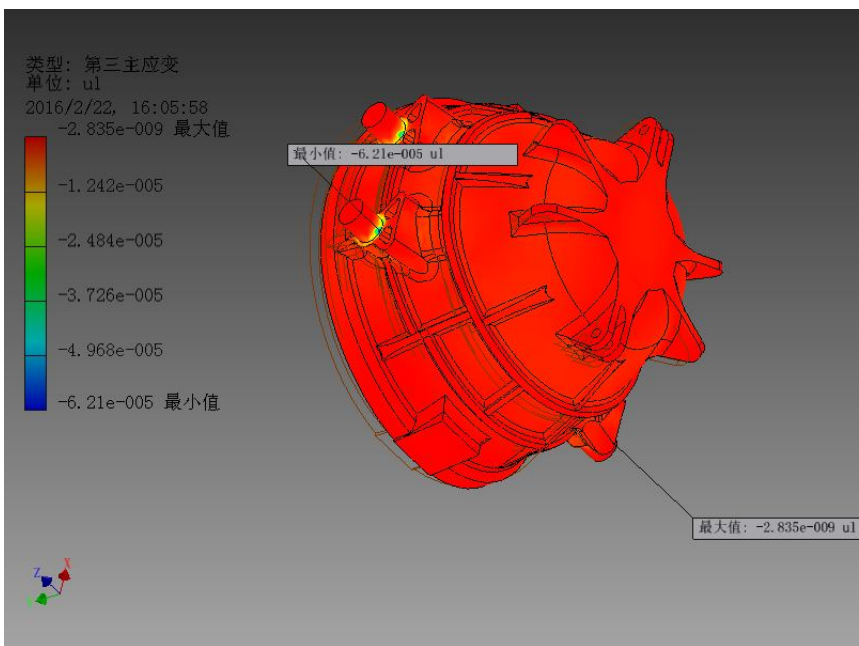
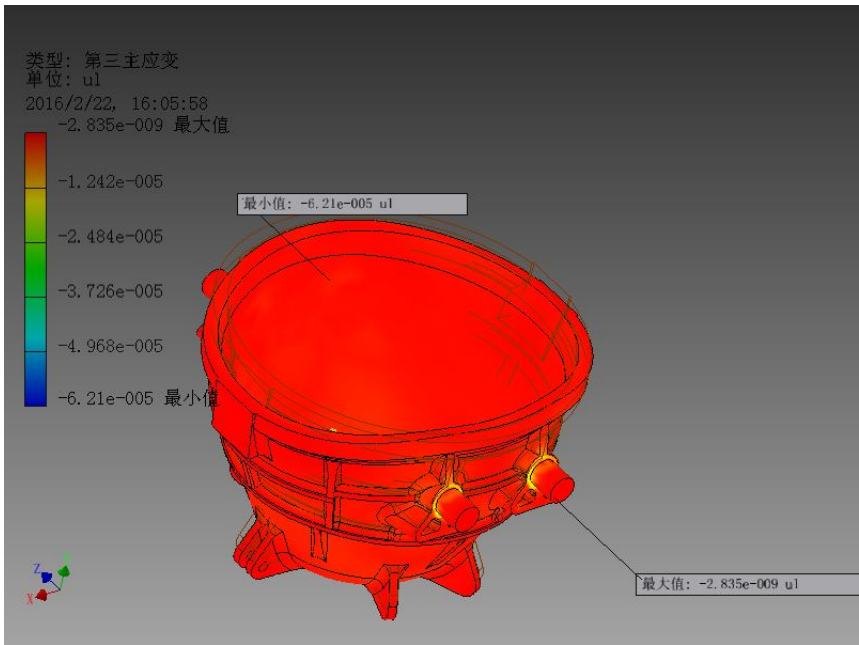


☐ 第一主应变

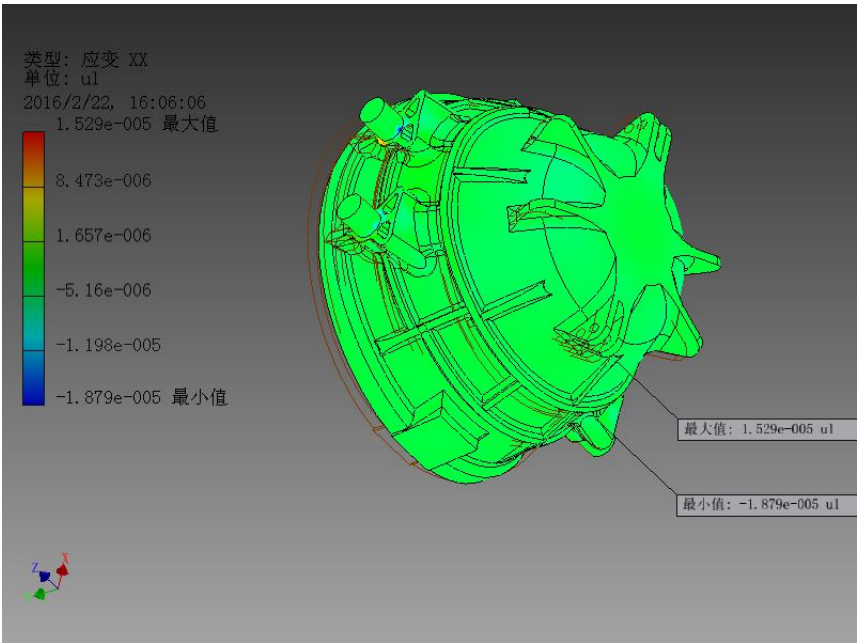
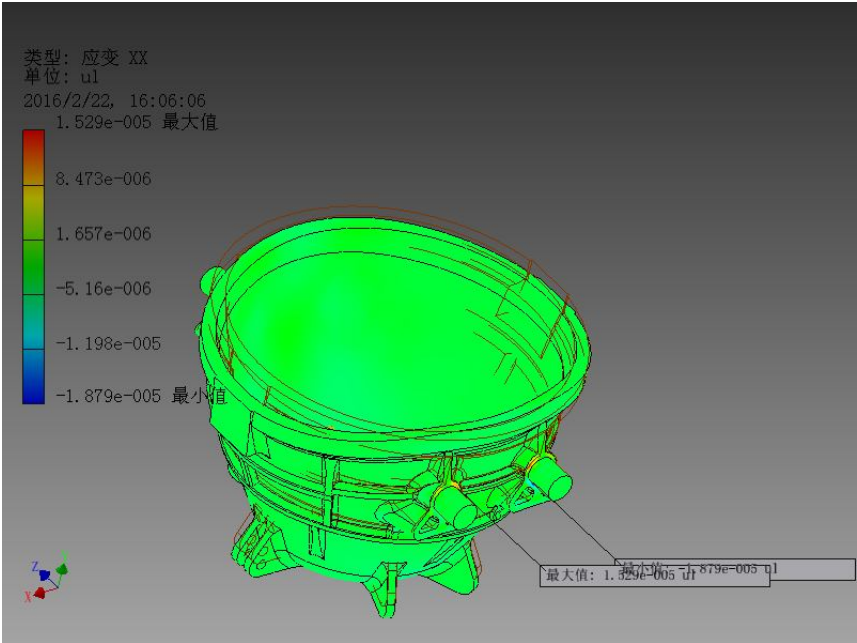




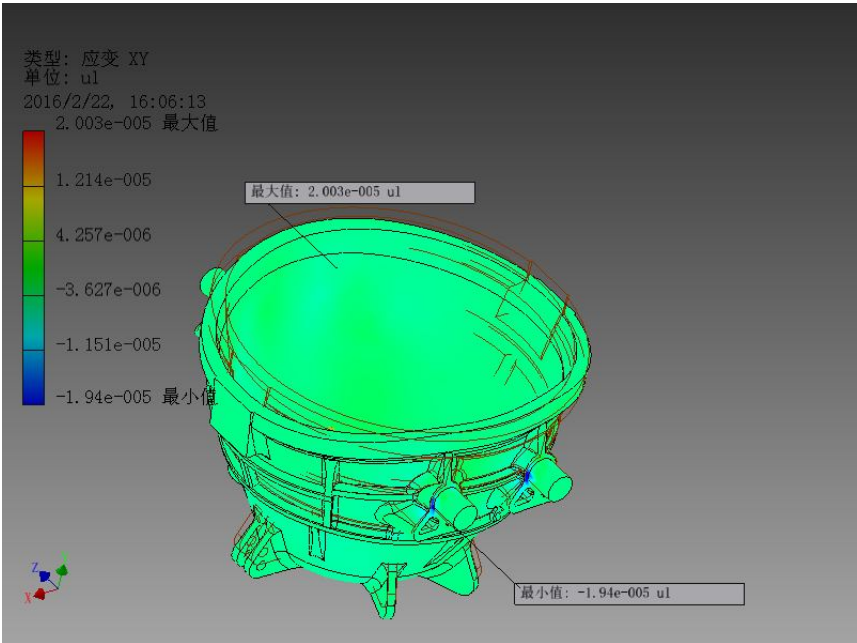
第三主应变

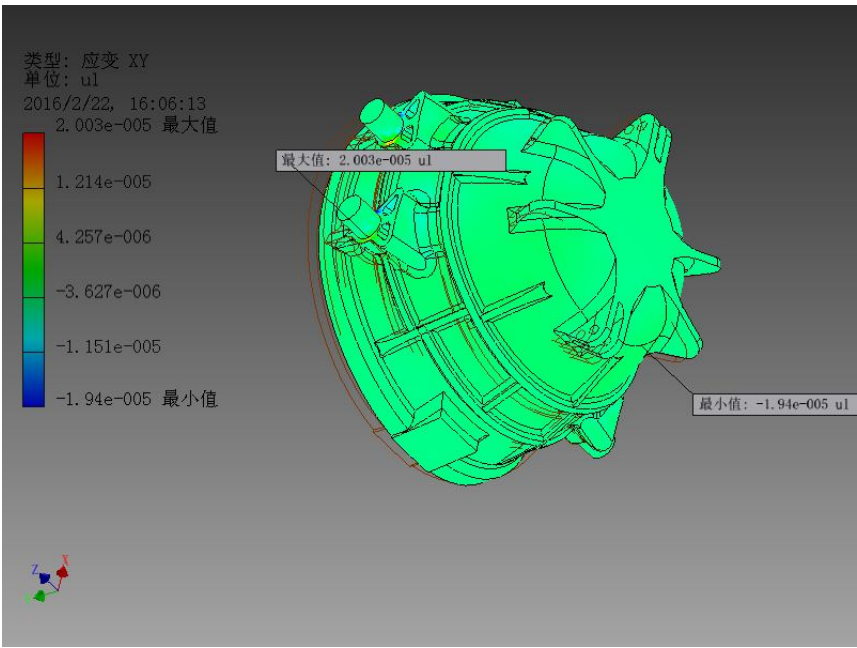


应变 XX

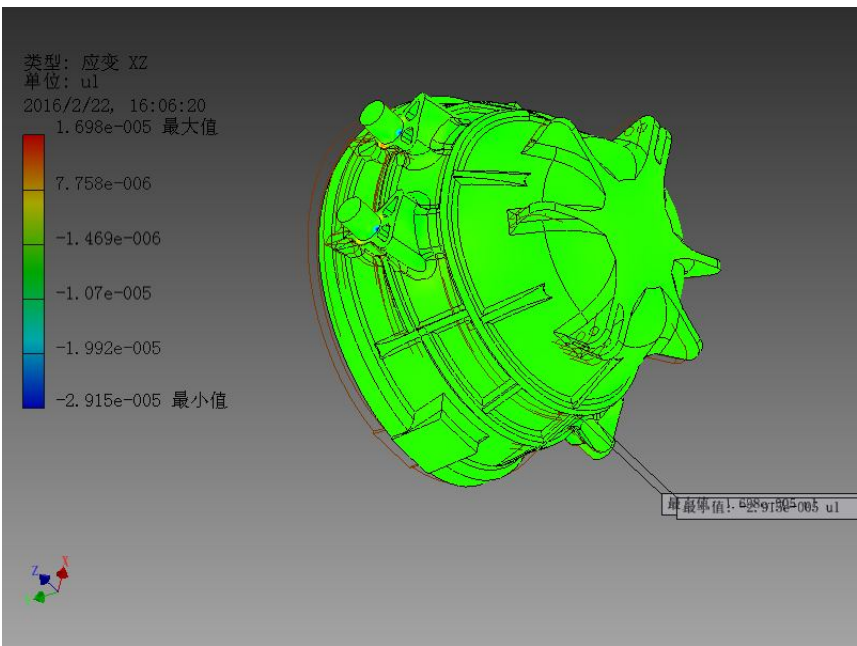
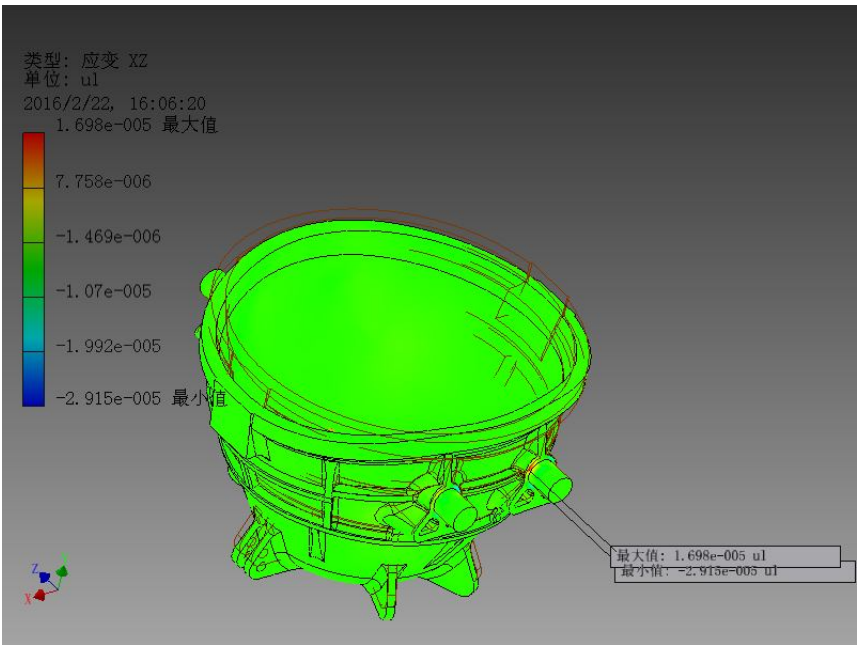


应变 XY

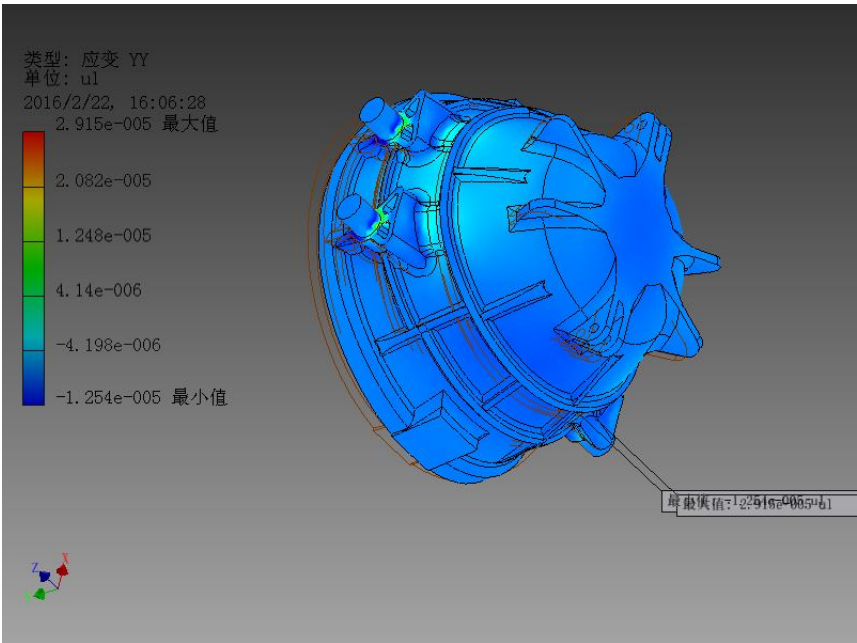
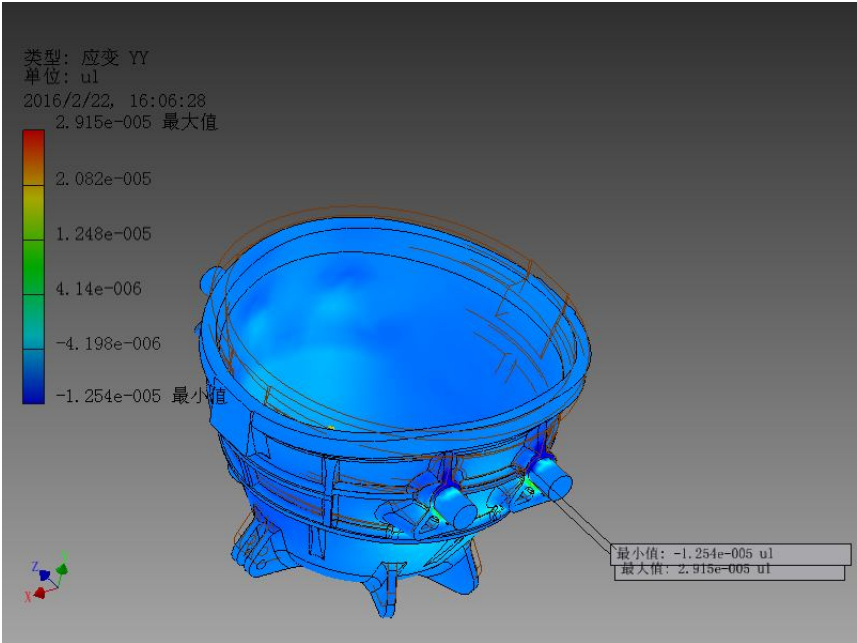




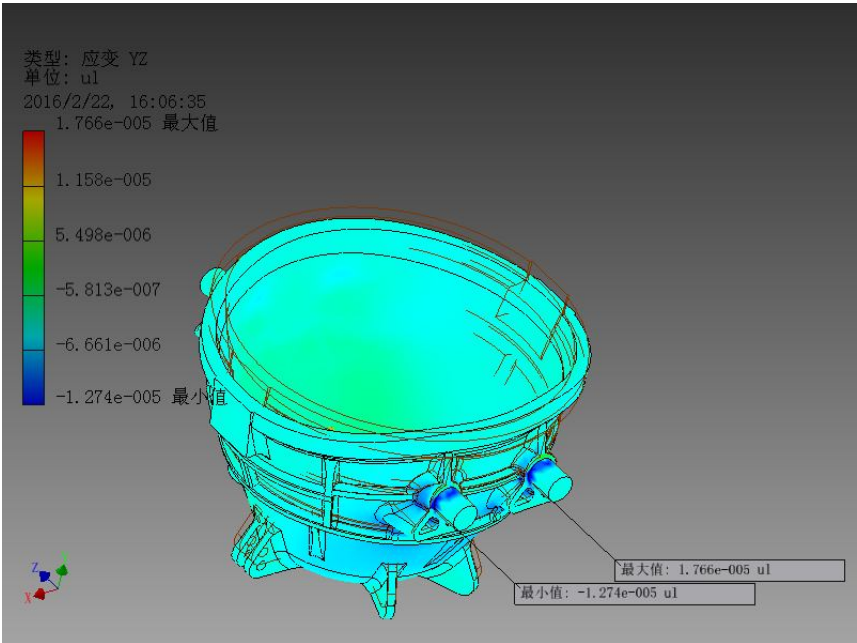
应变 XZ

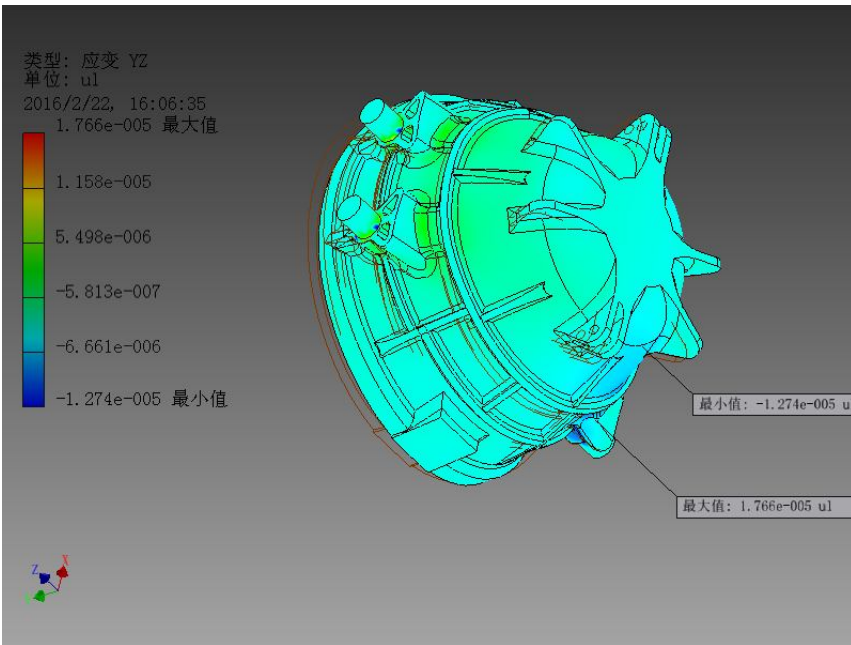


应变 YY

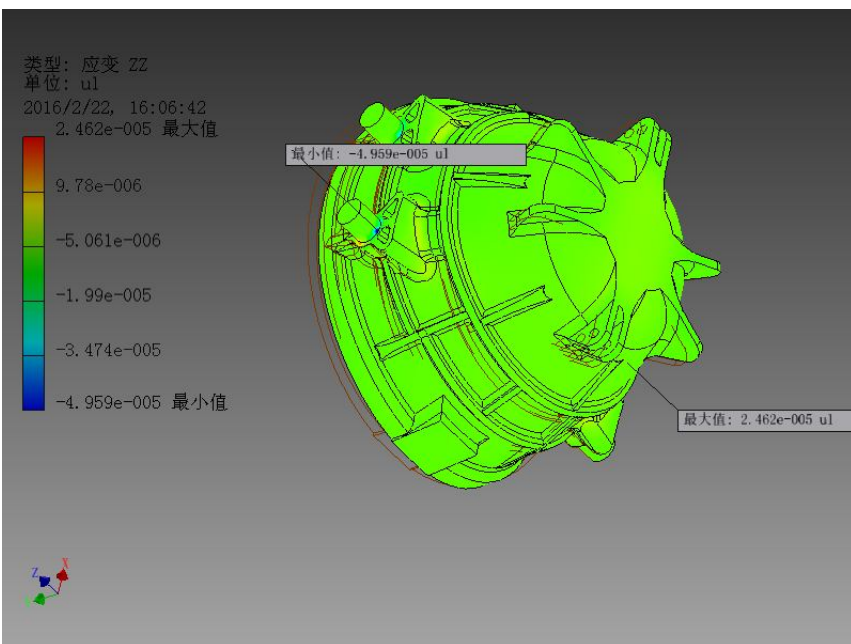
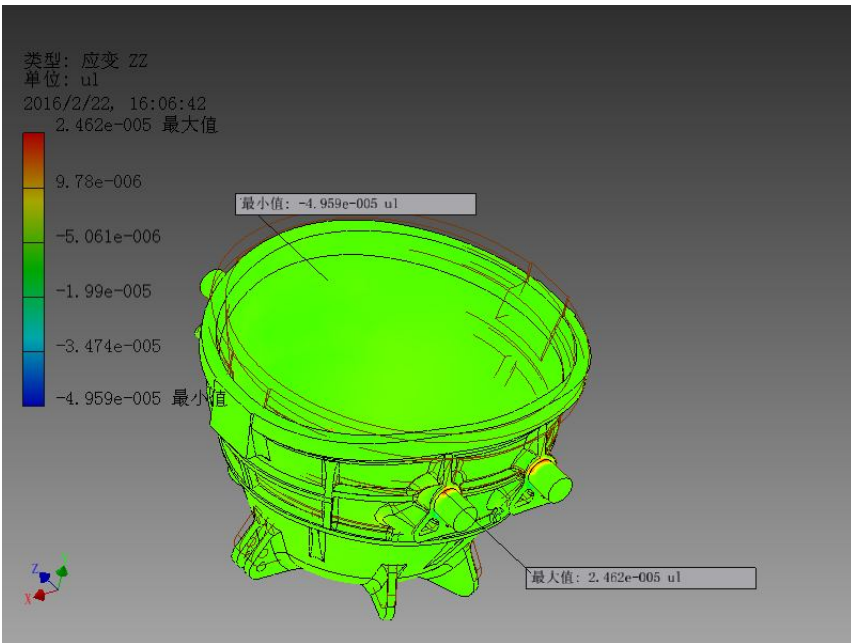


应变 YZ





应变 ZZ



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