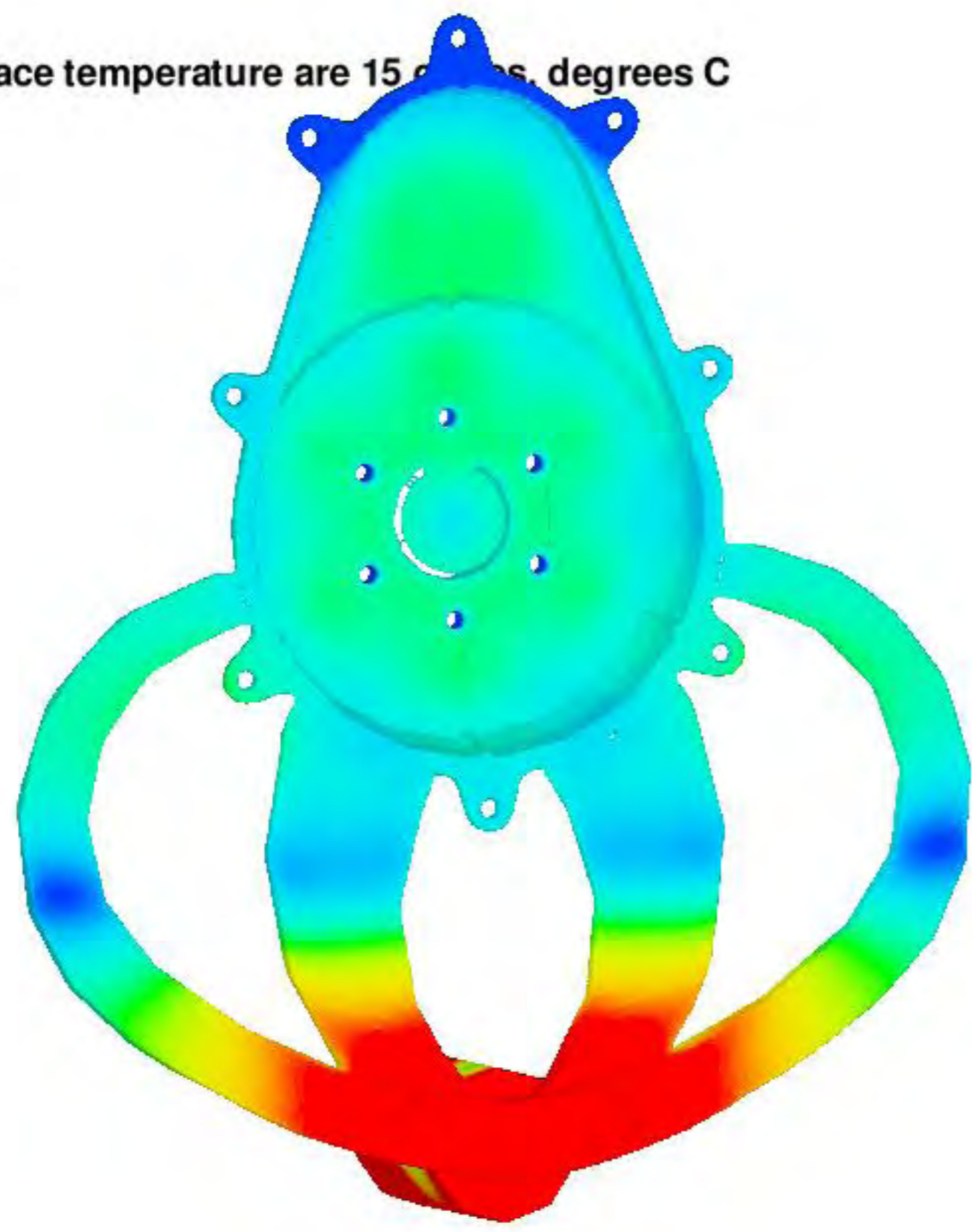


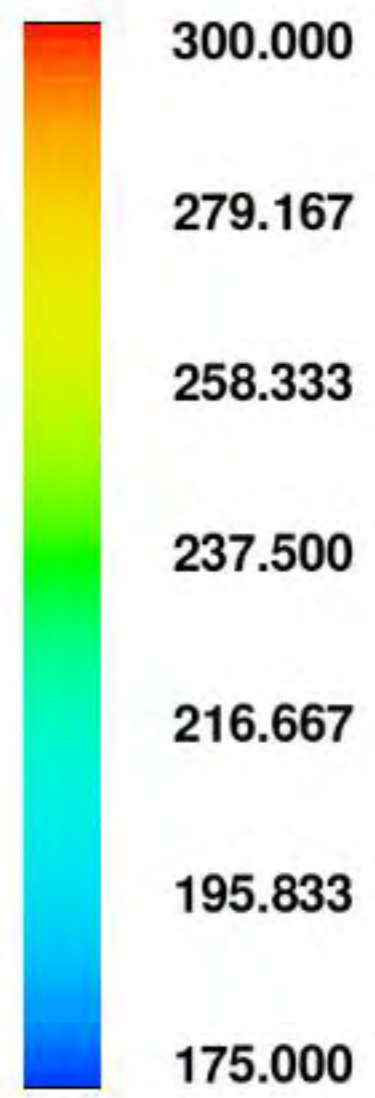
Die cavity surface temperature are 15 degrees, degrees C

Time Frame : 1375.325073



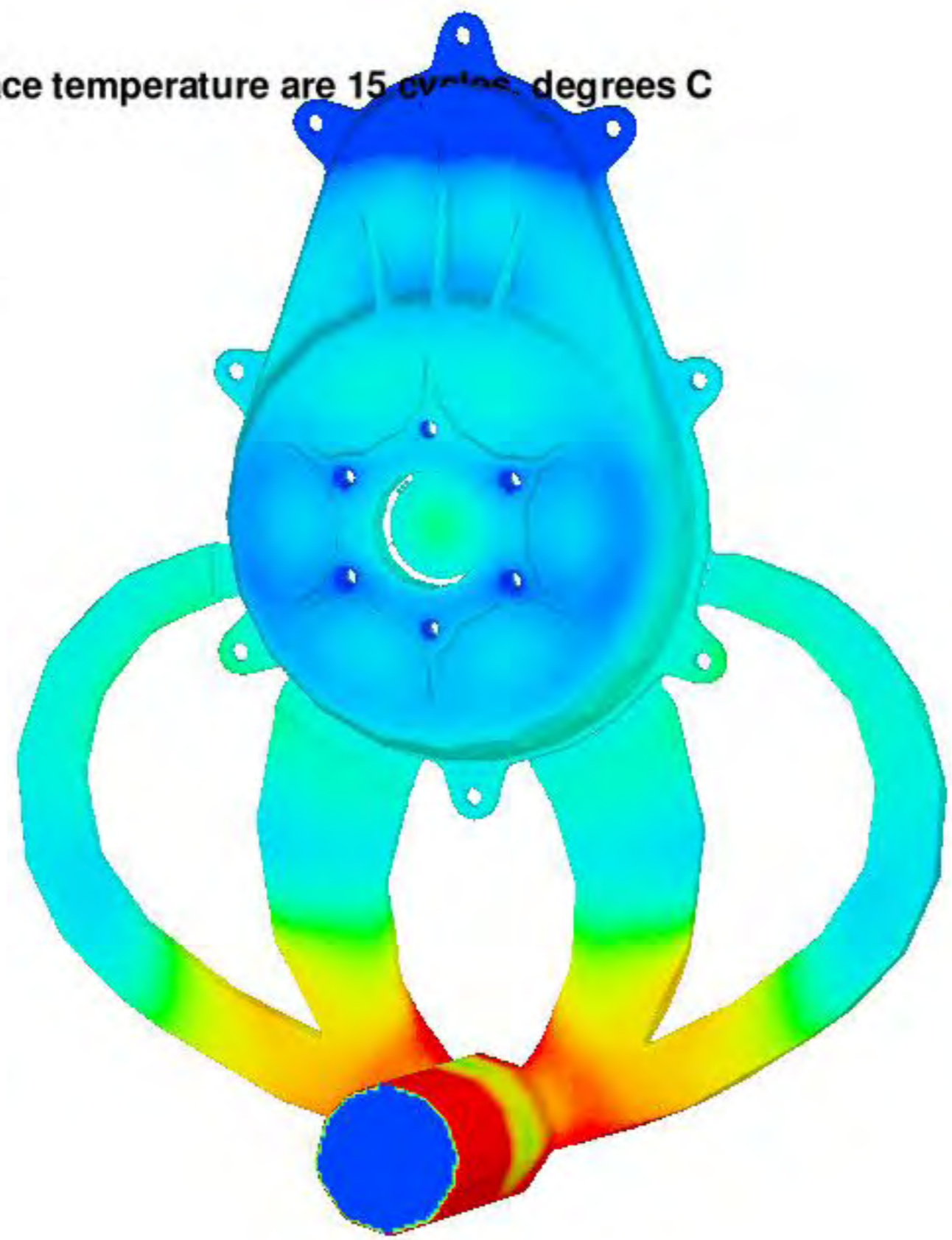
component interface temperature

(degrees-k)



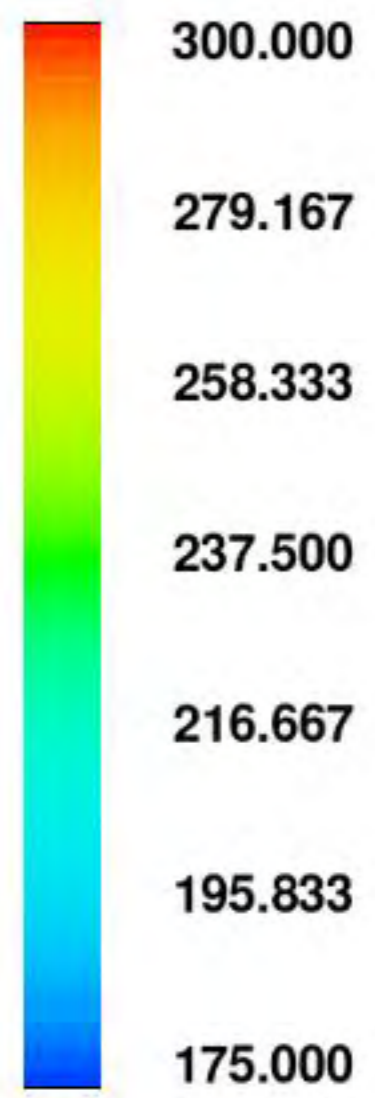
Die cavity surface temperature are 15 cycles, degrees C

Time Frame : 1375.325073

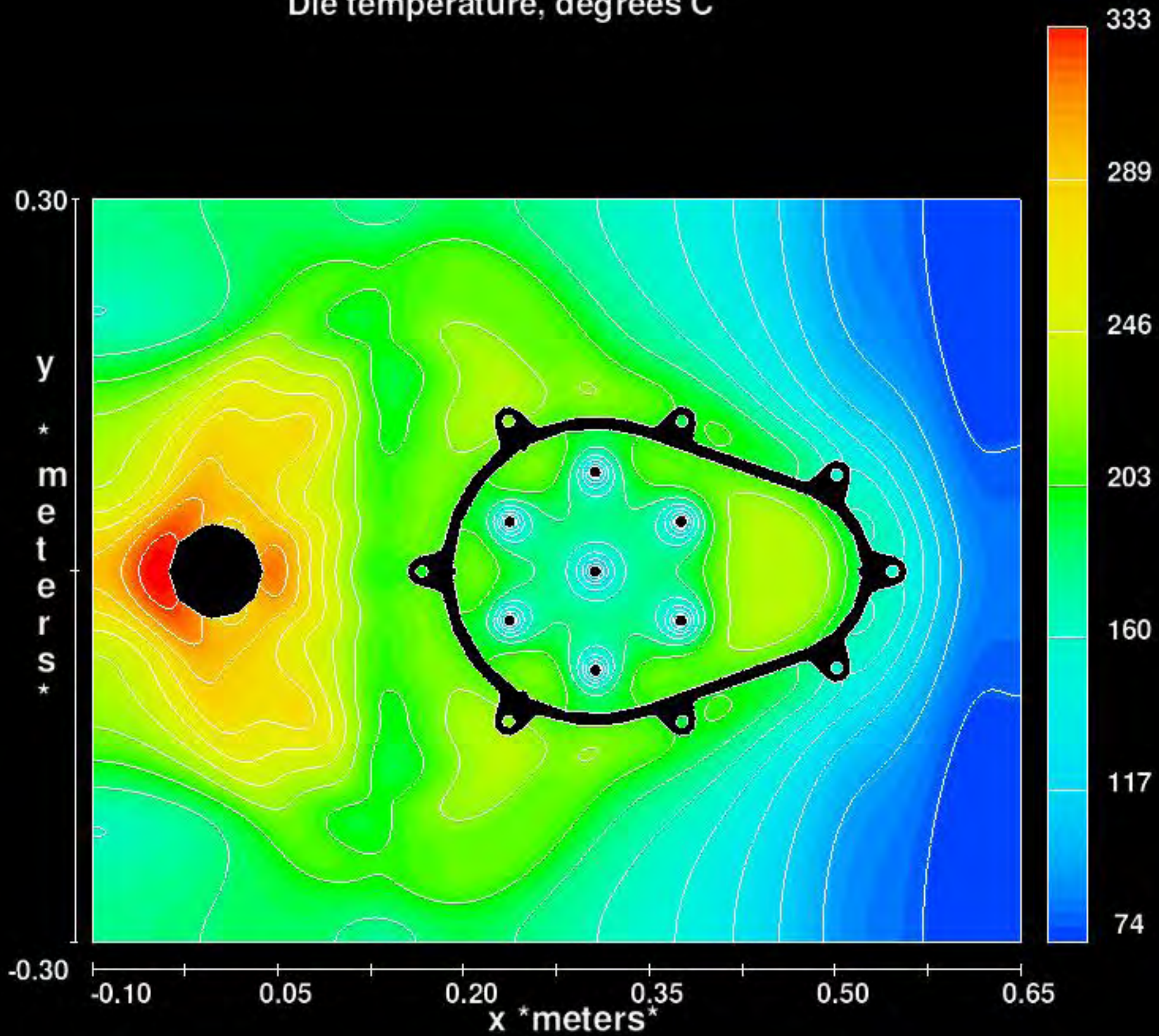


component interface temperature

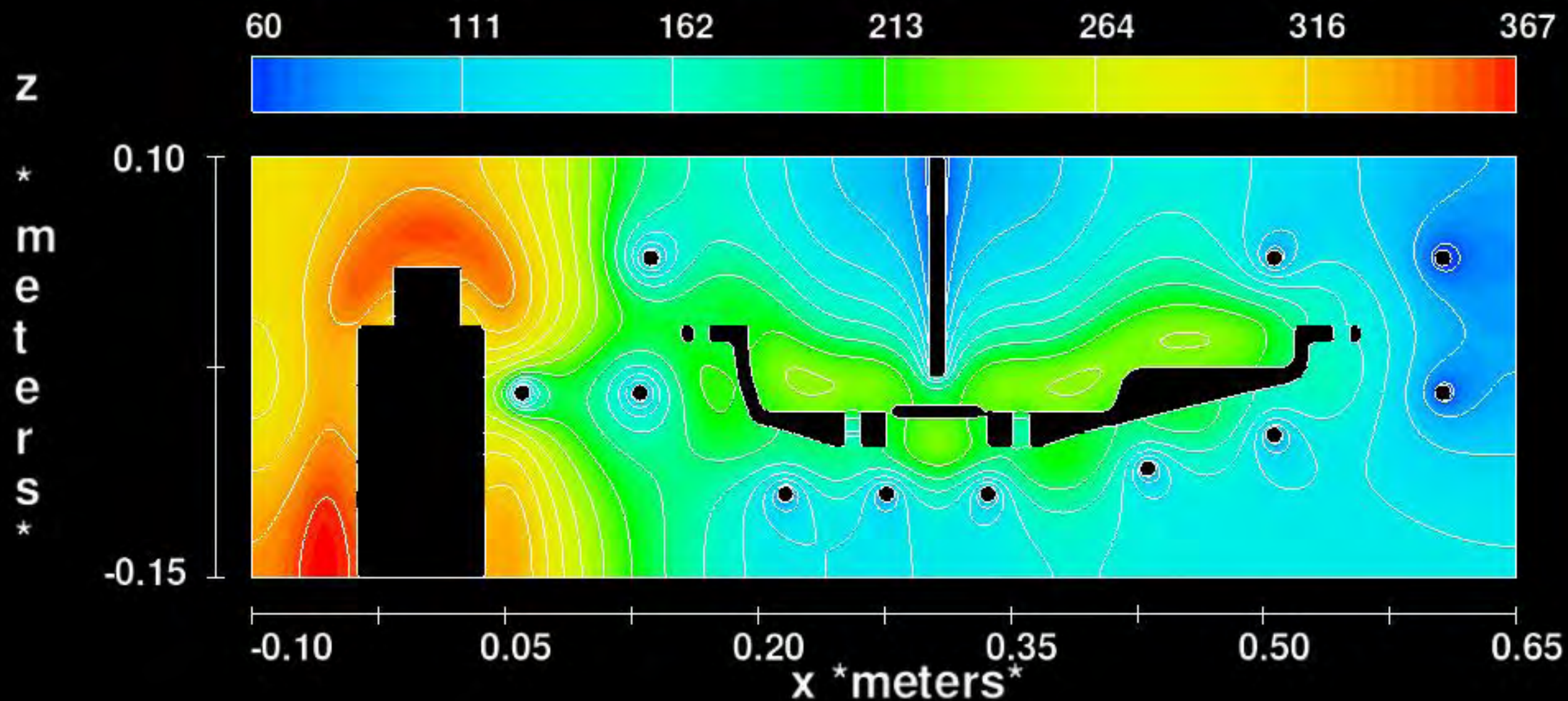
(degrees-k)



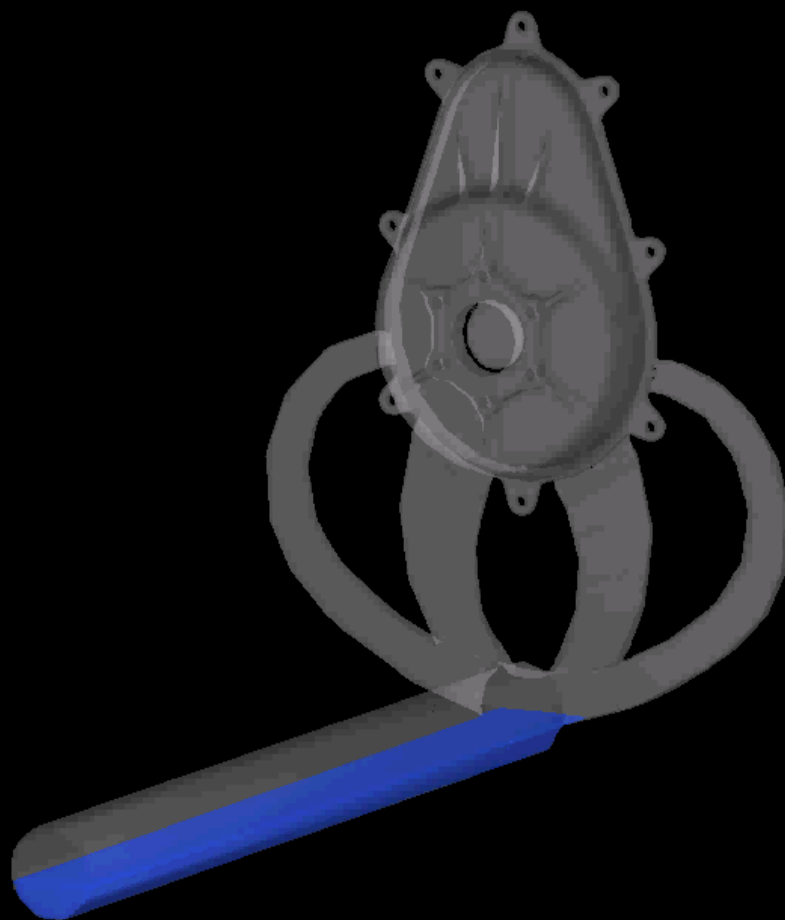
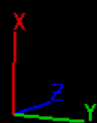
Die temperature, degrees C



Die temperatue, degrees C



FLOW-3D t=1.375E+03 y=1.000E-03 ix=2 to 376 kz=2 to 126
17:39:23 10/13/2006 qlna hydr3d: version 9.1.1 amd64-win 2006
Title



vol. fraction of entrained



0.900

0.750

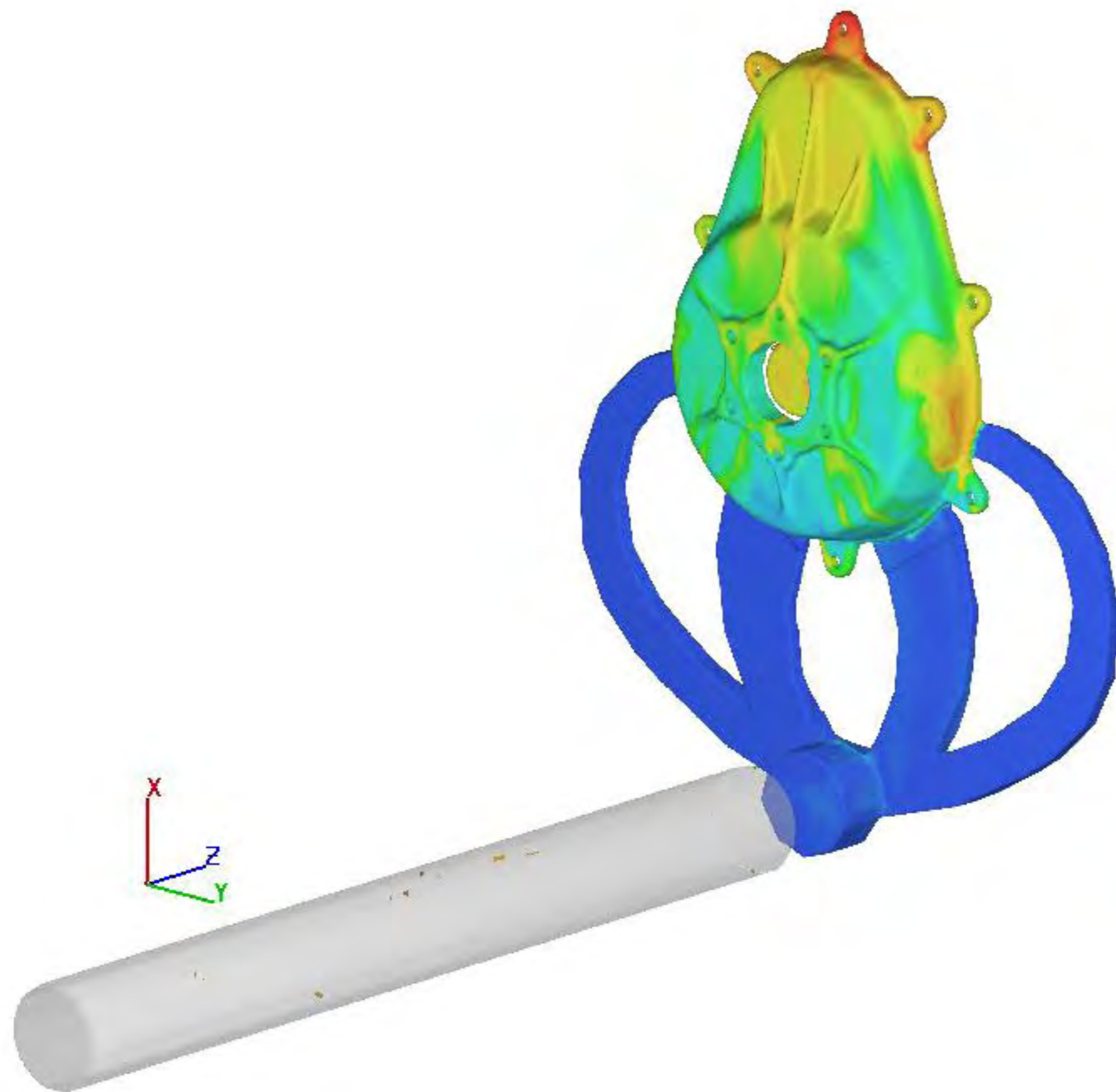
0.600

0.450

0.300

0.150

0.000



vol. fraction of entrained air



0.900

0.750

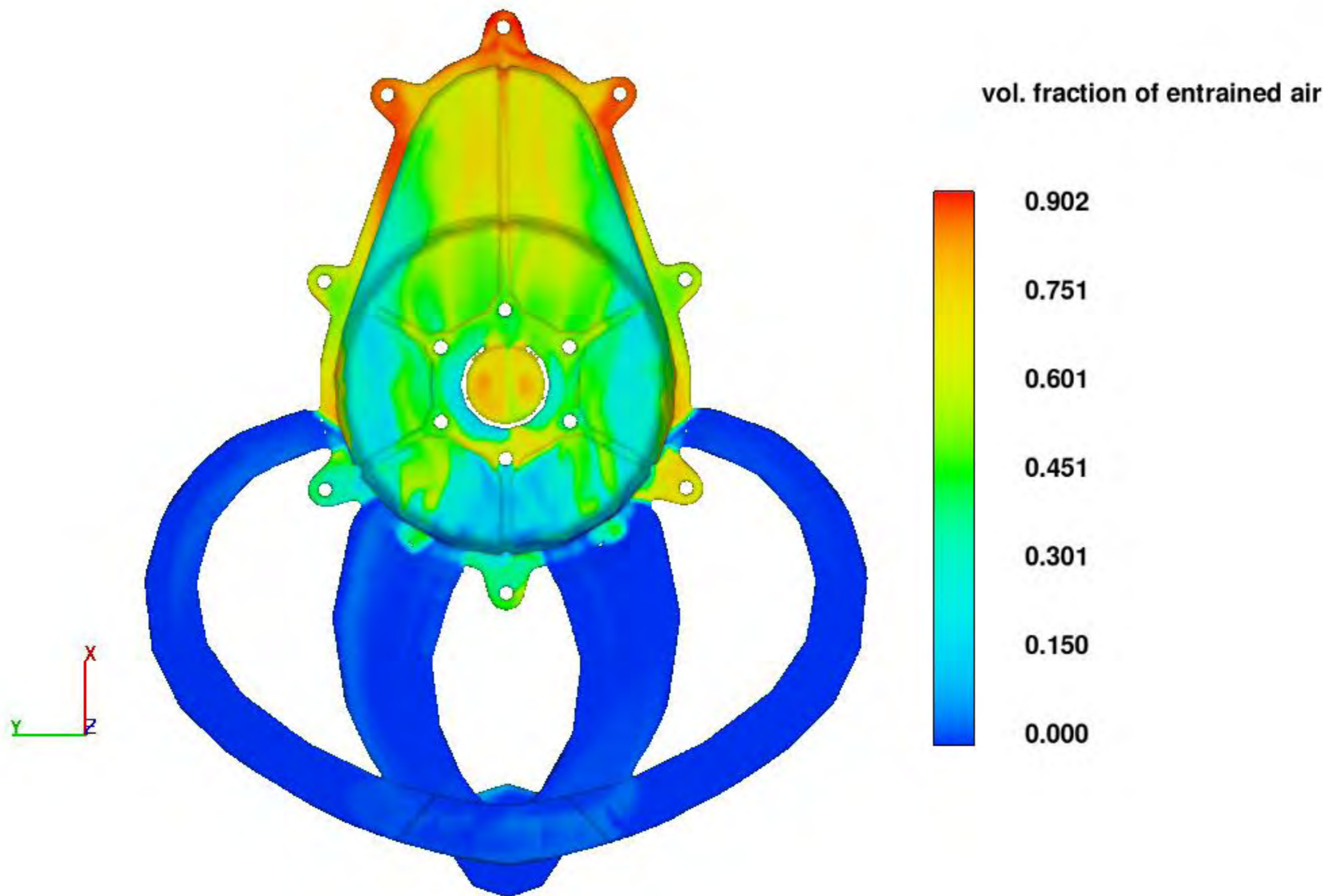
0.600

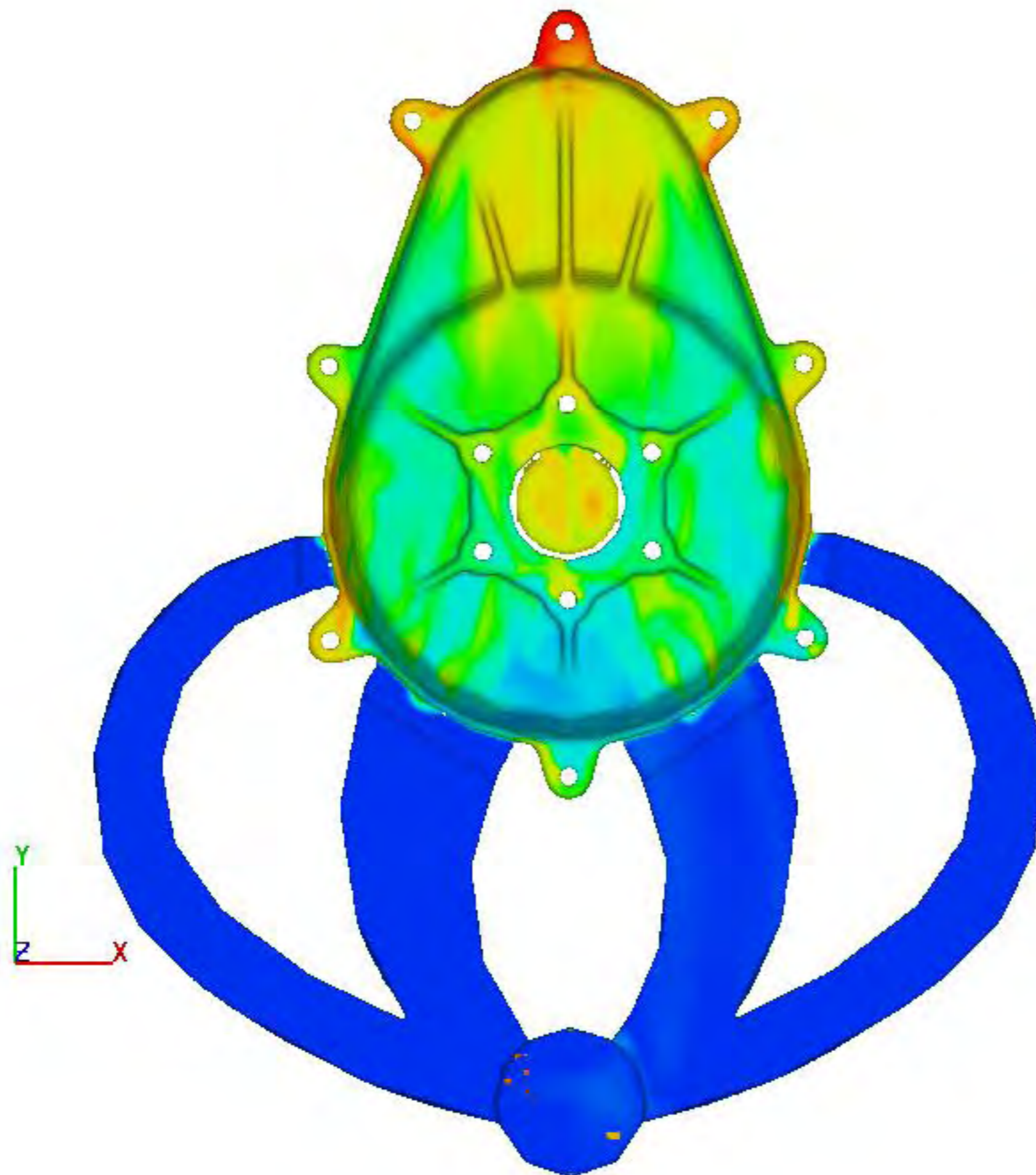
0.450

0.300

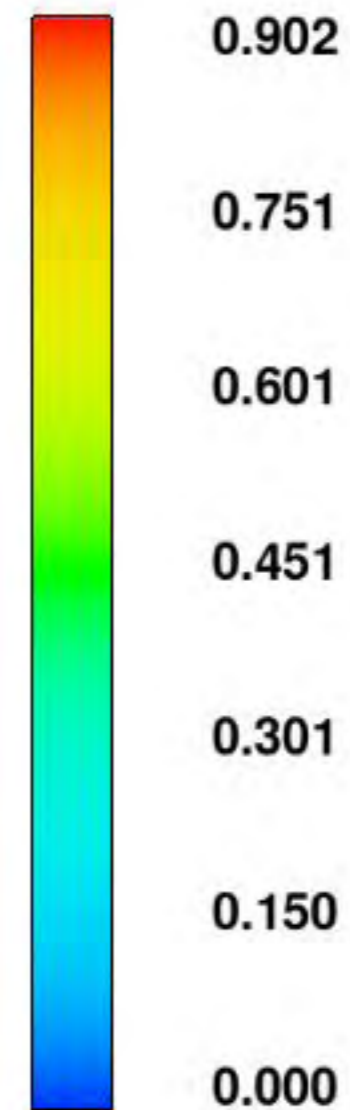
0.150

0.000

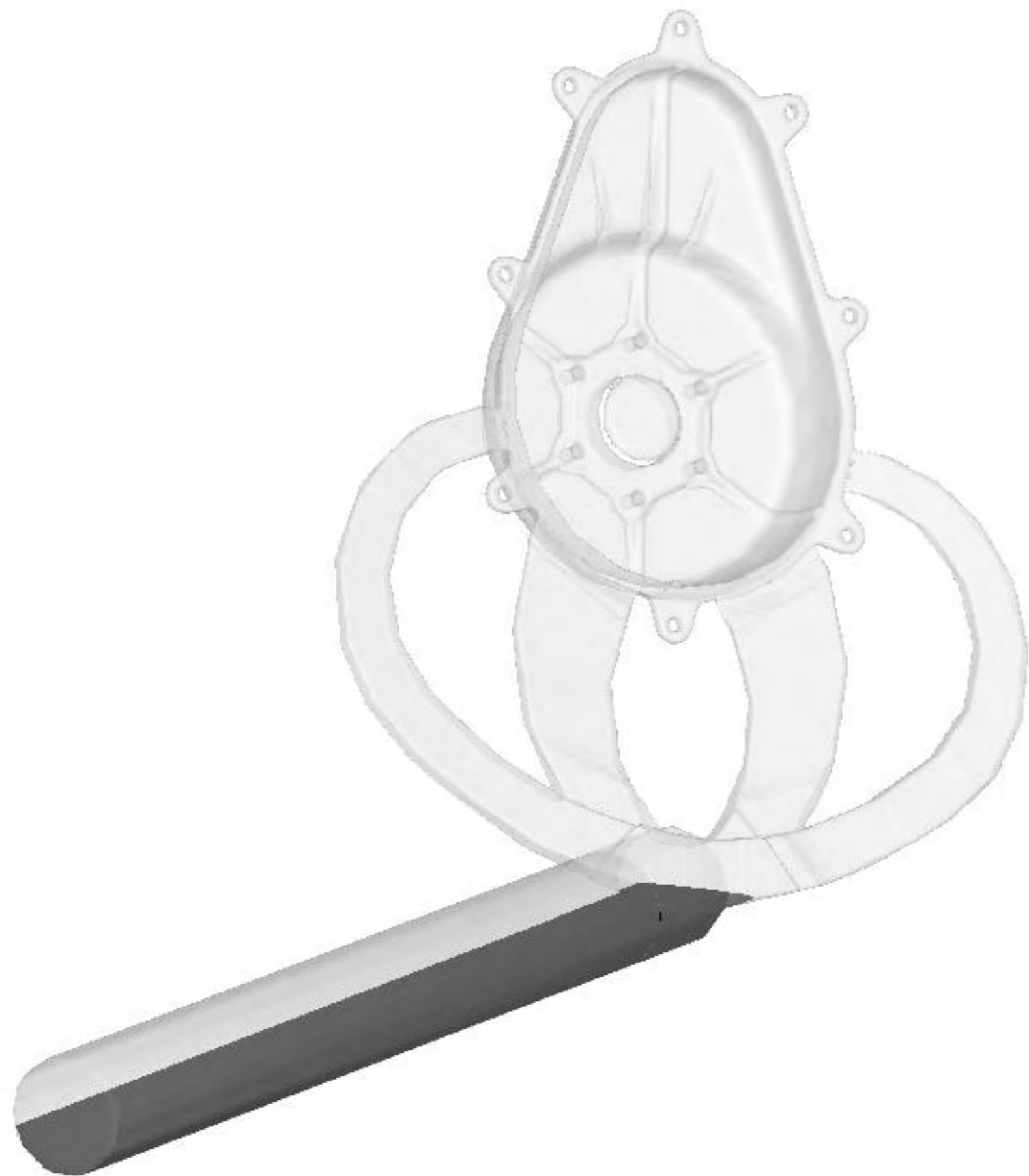


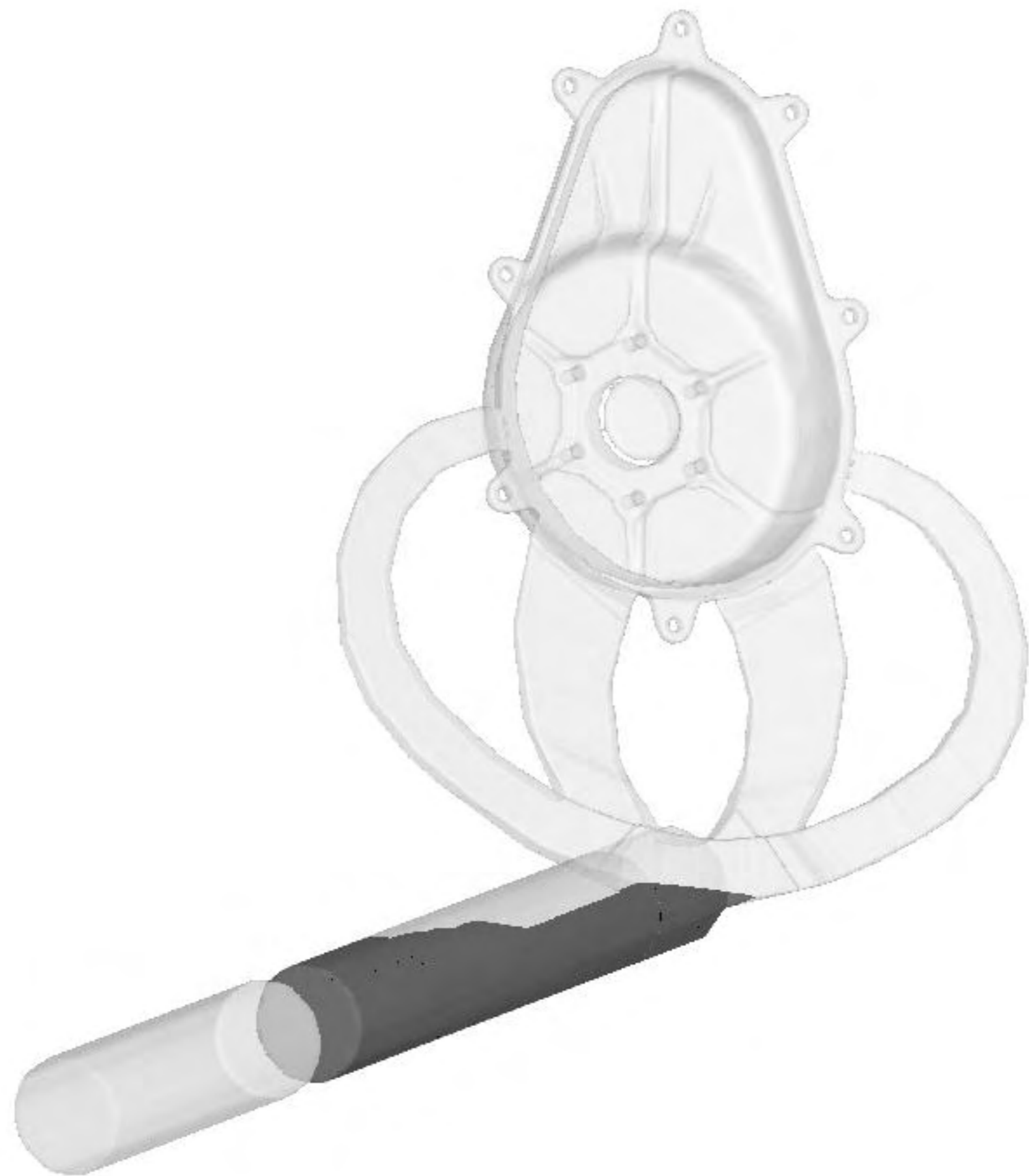


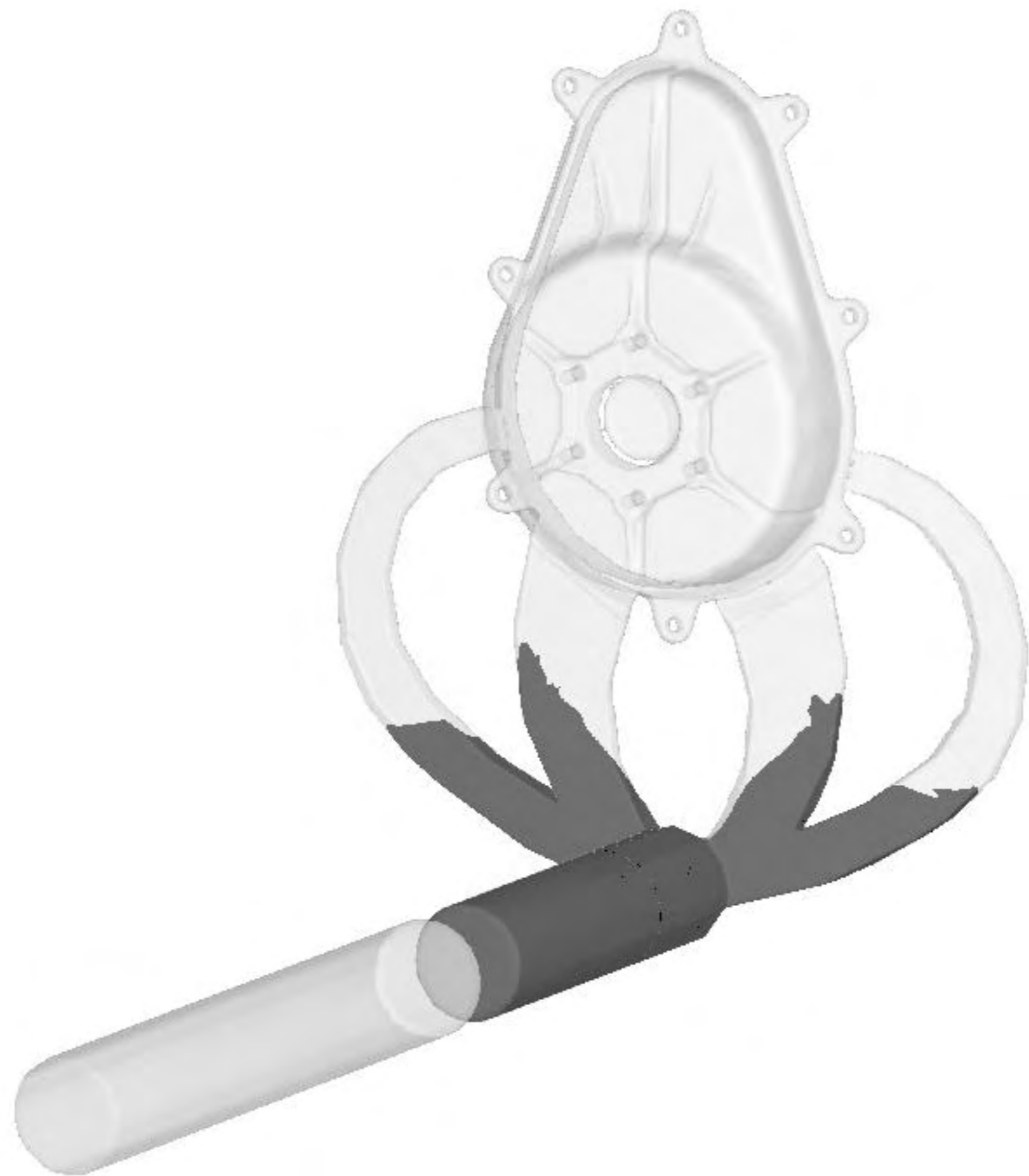
vol. fraction of entrained air



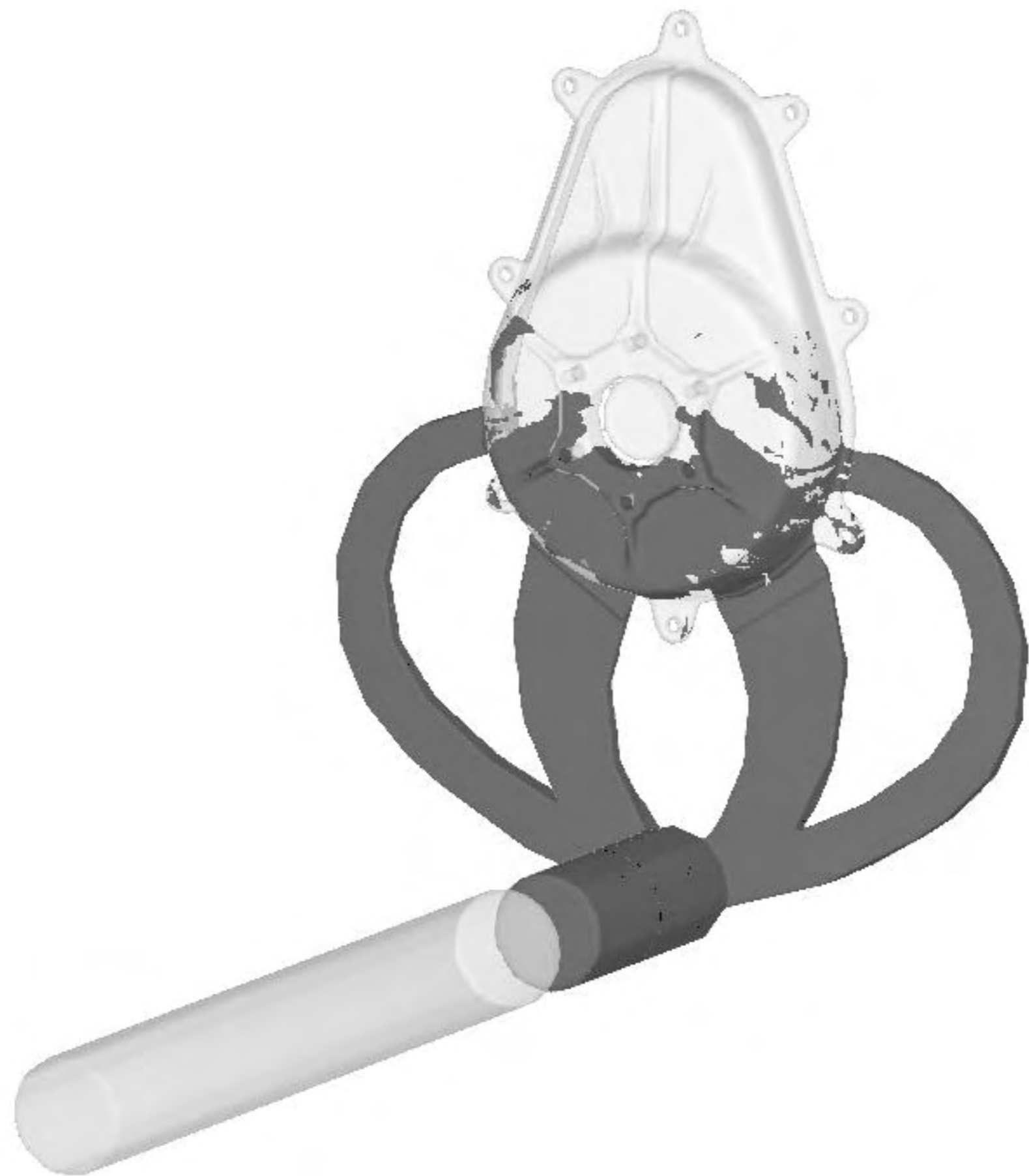




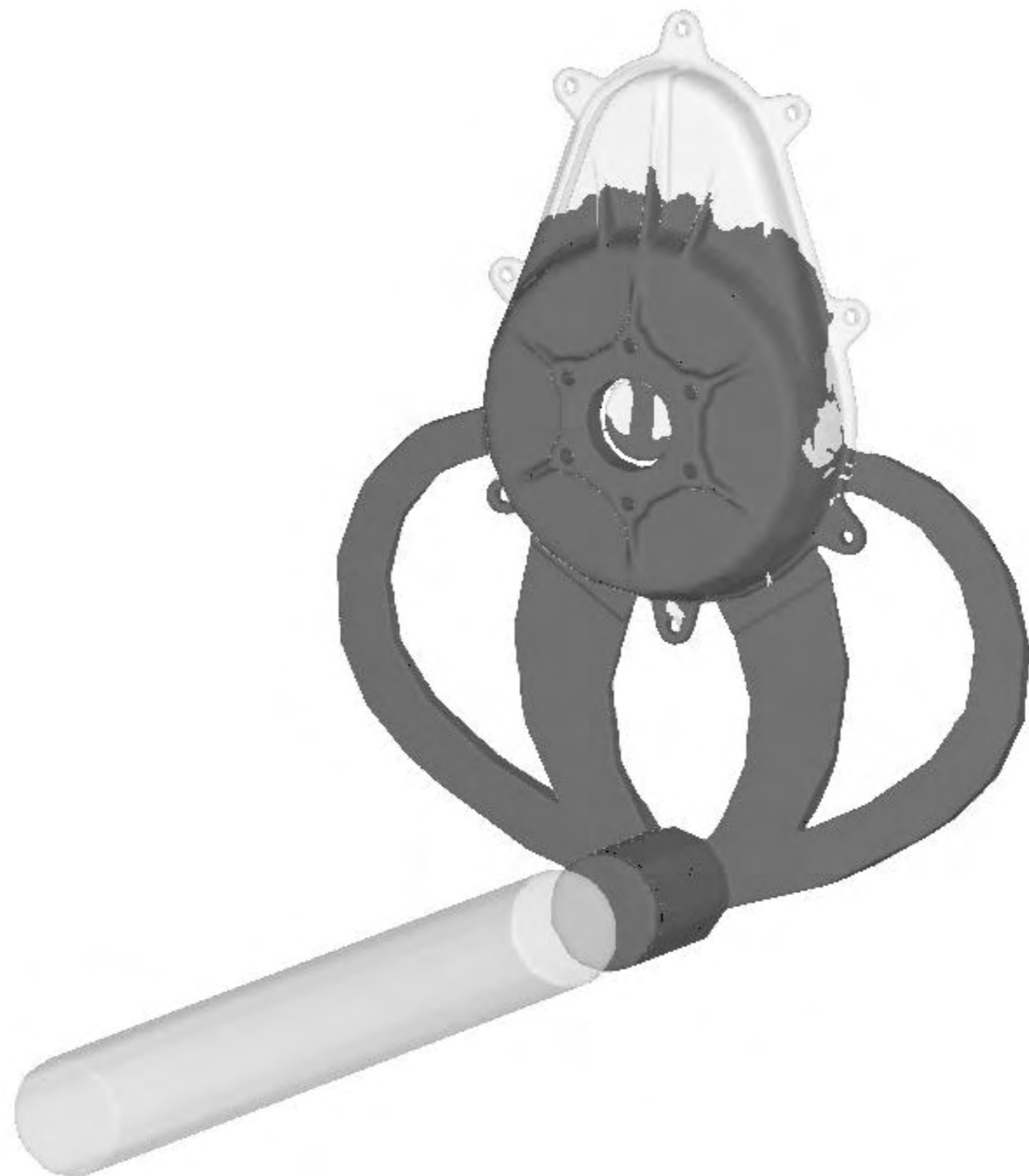


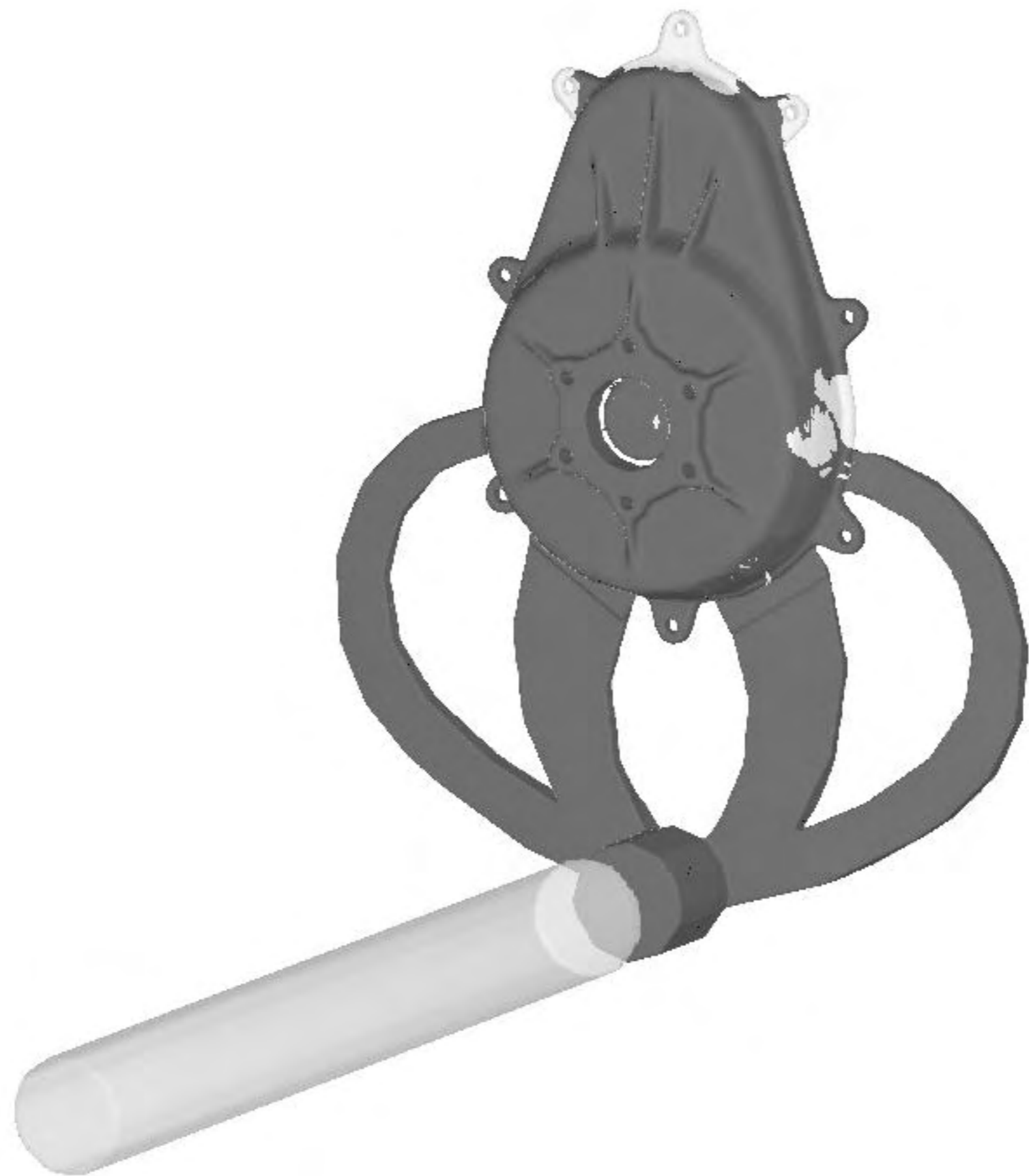


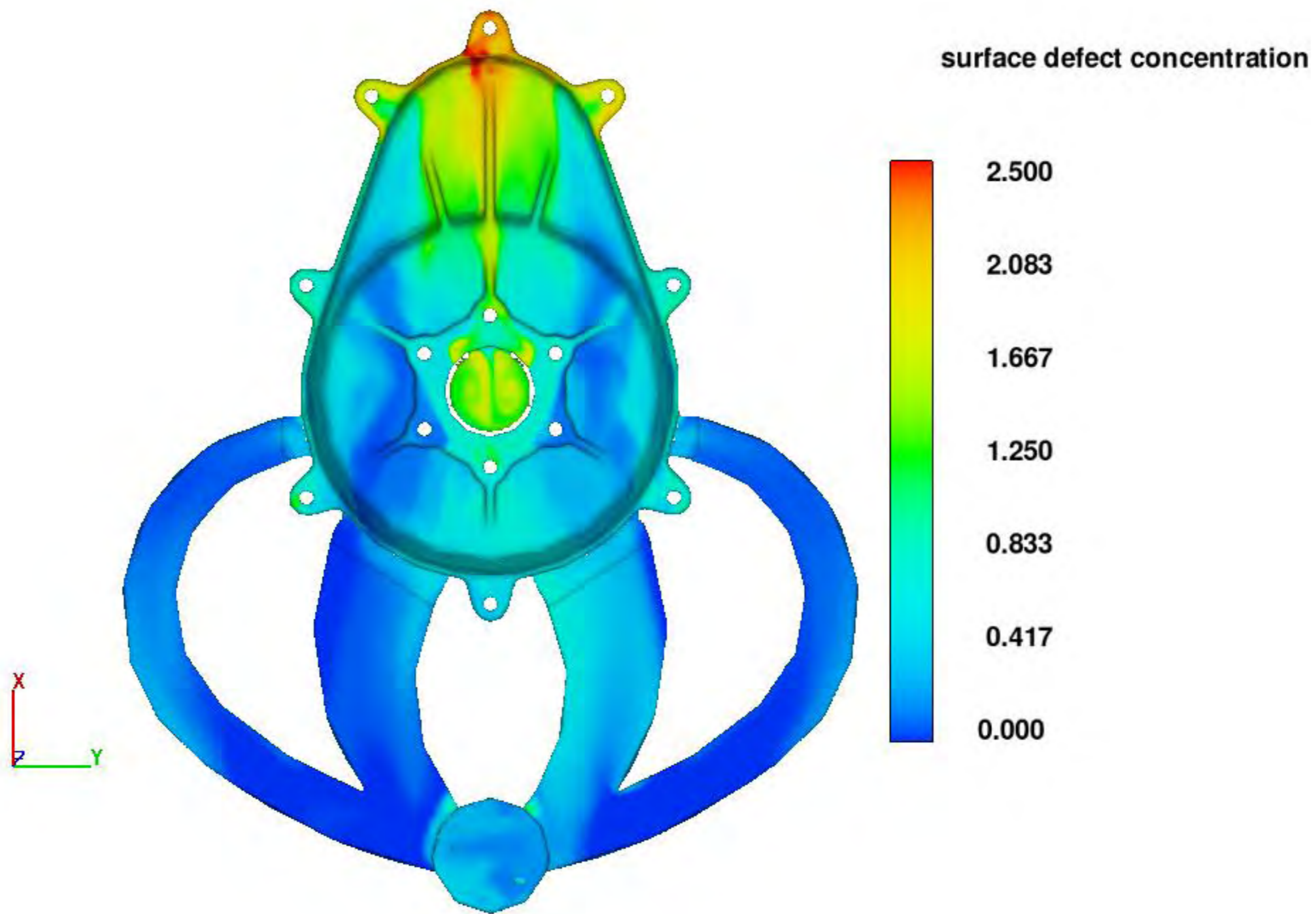


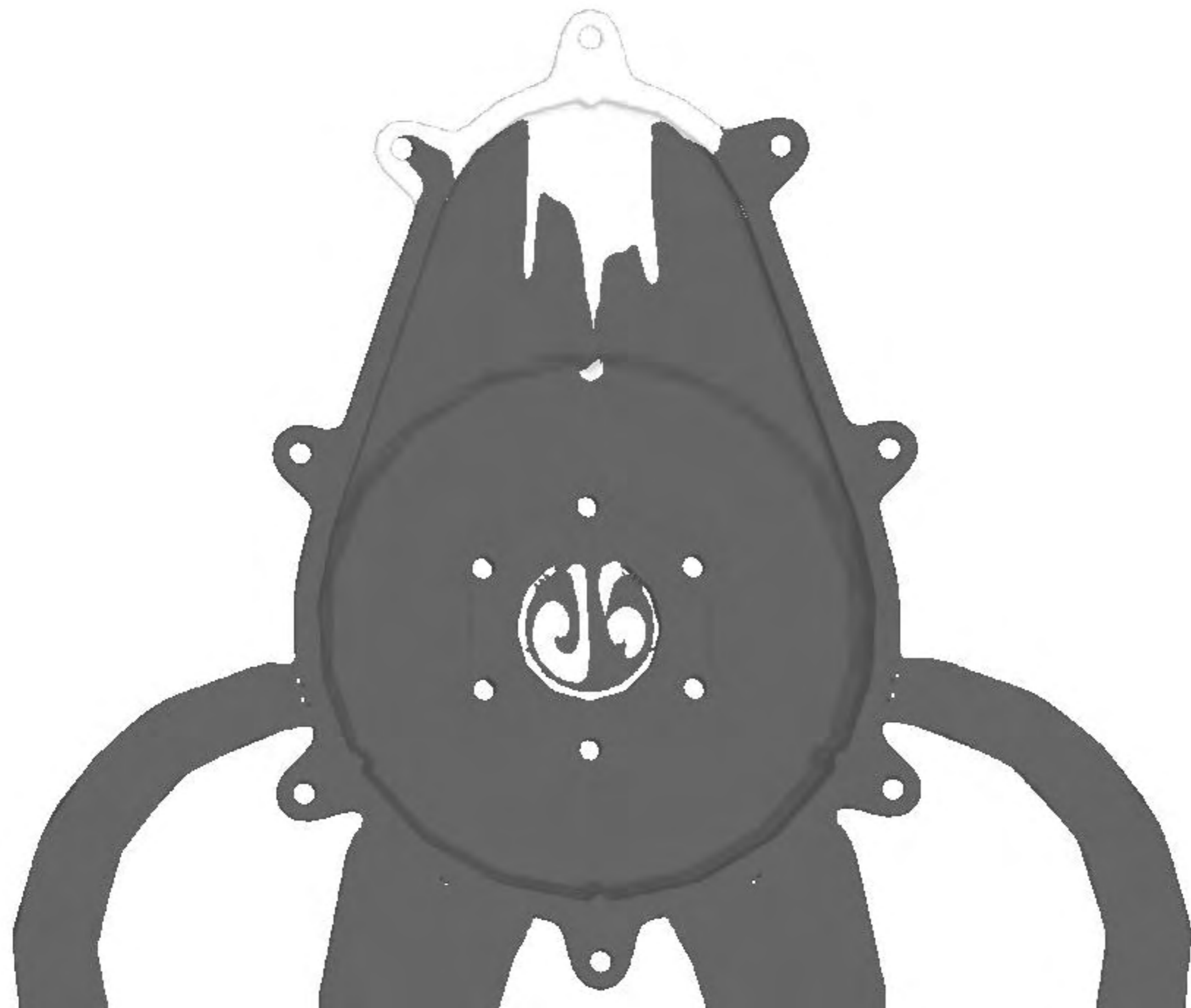






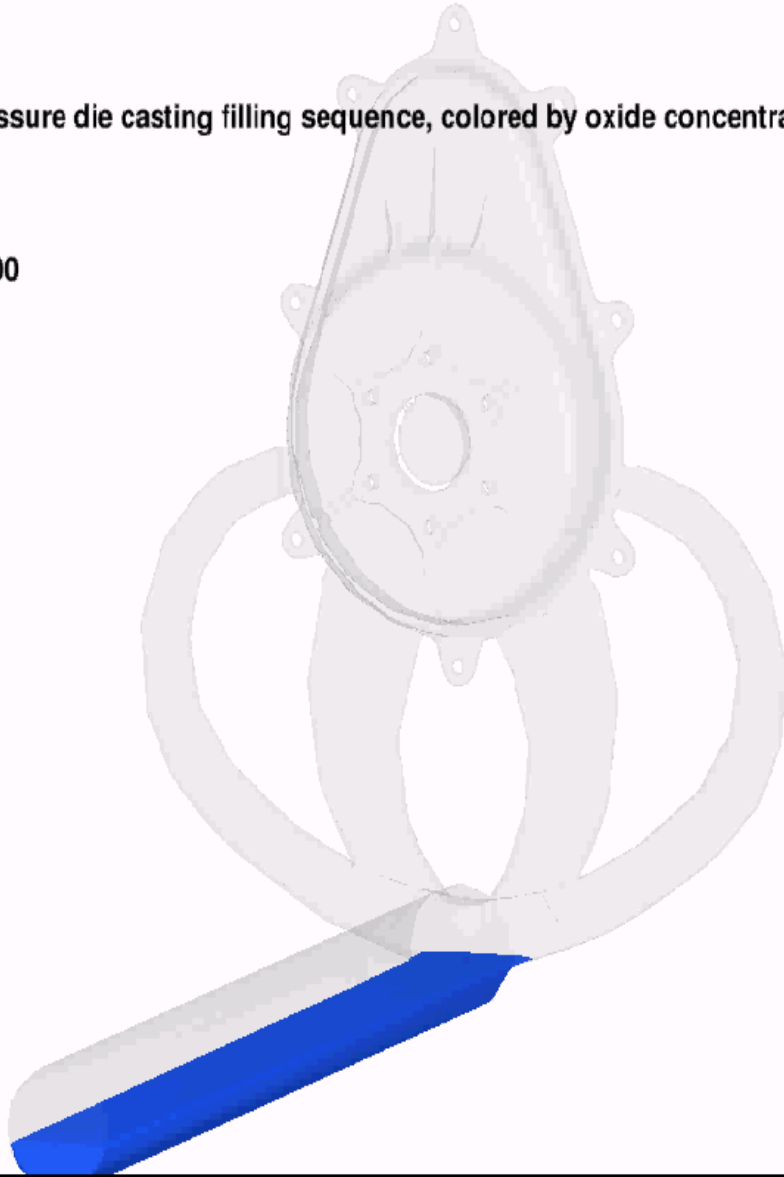


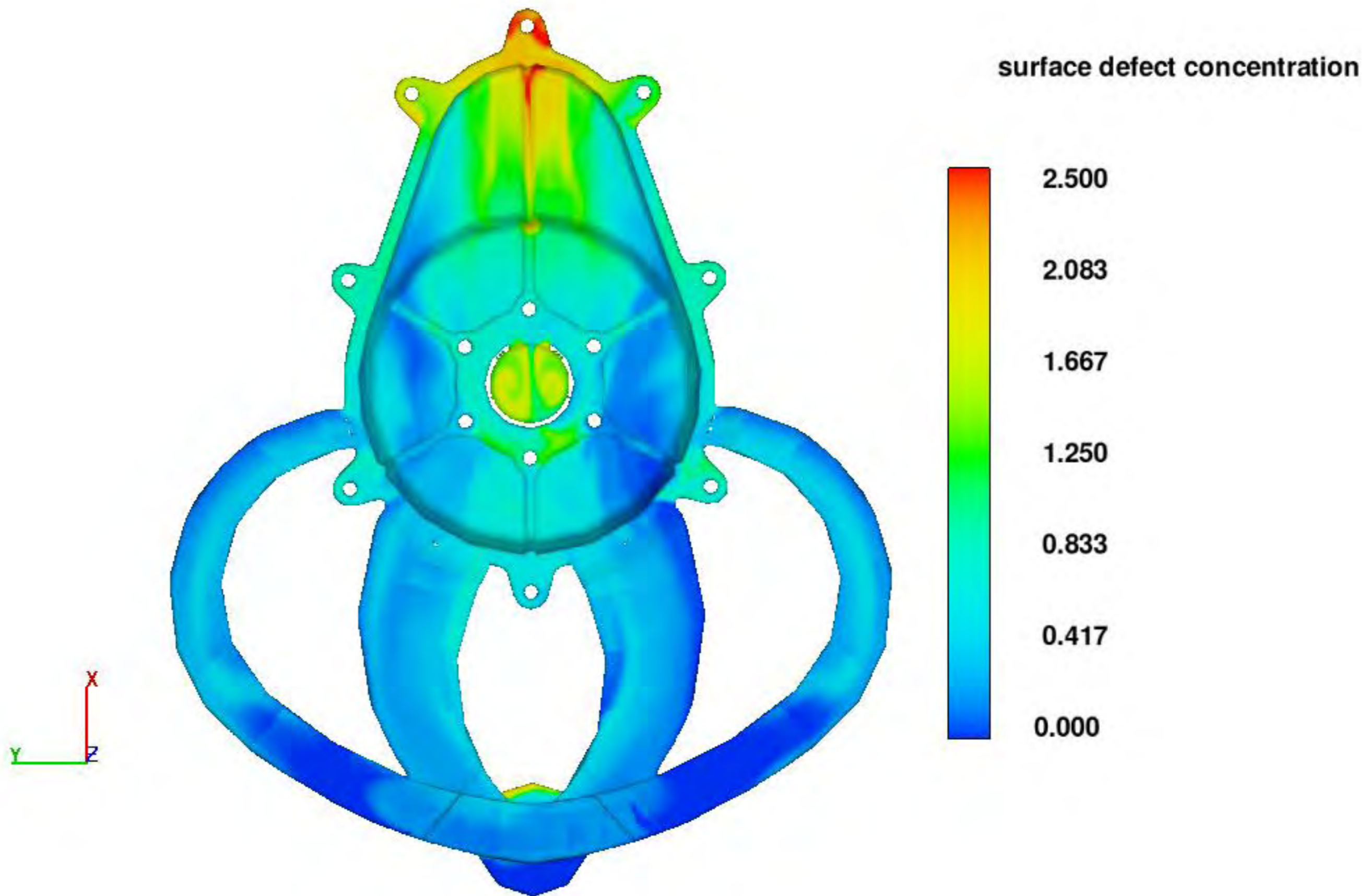




High pressure die casting filling sequence, colored by oxide concentration

Time Frame : 0.000000

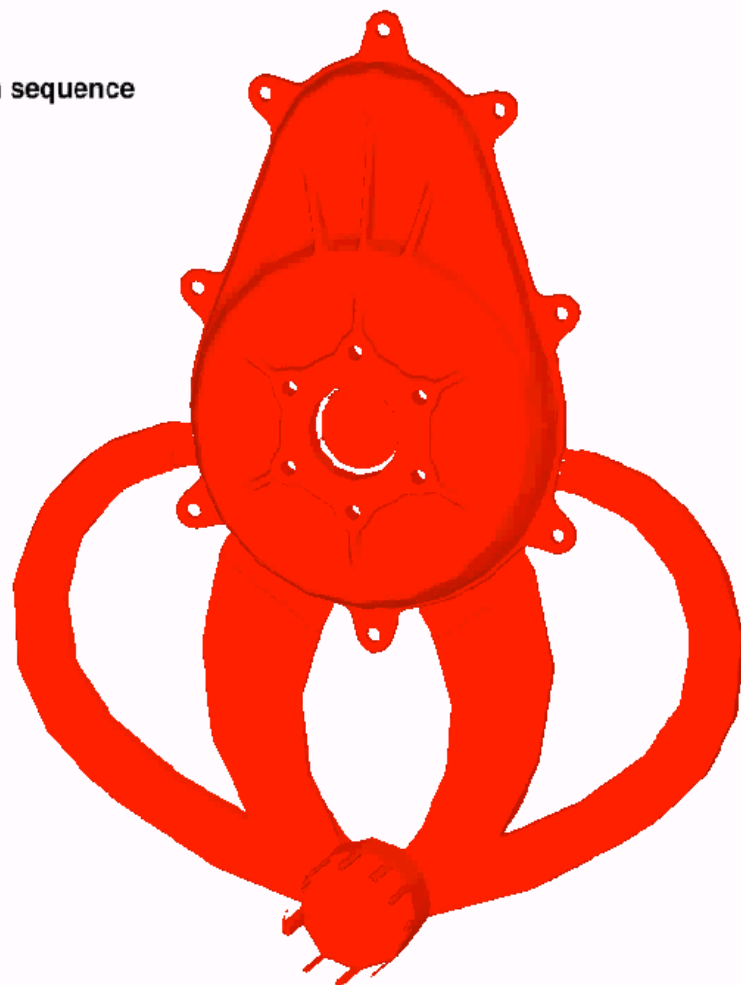




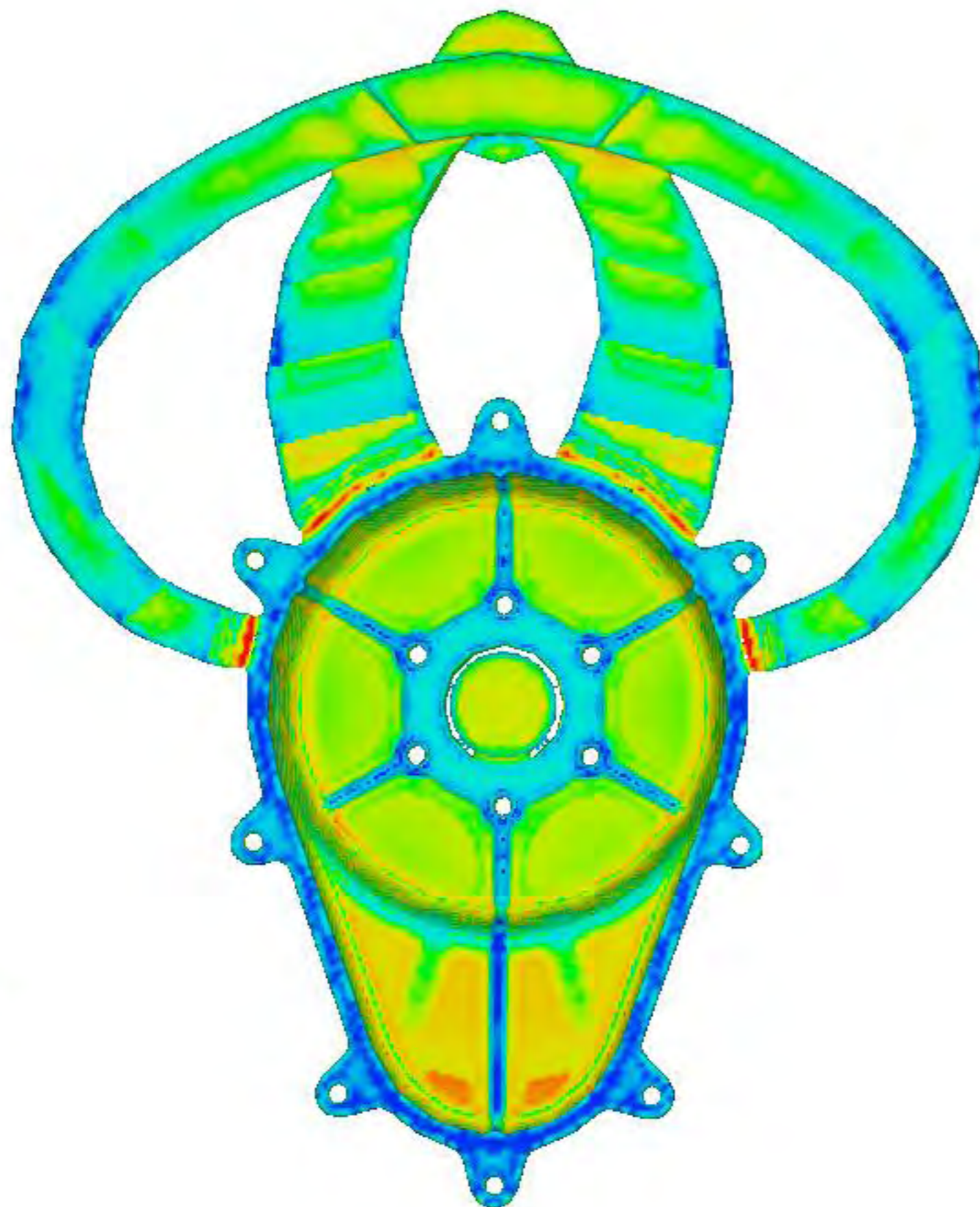
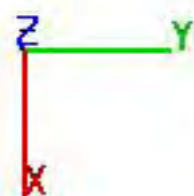
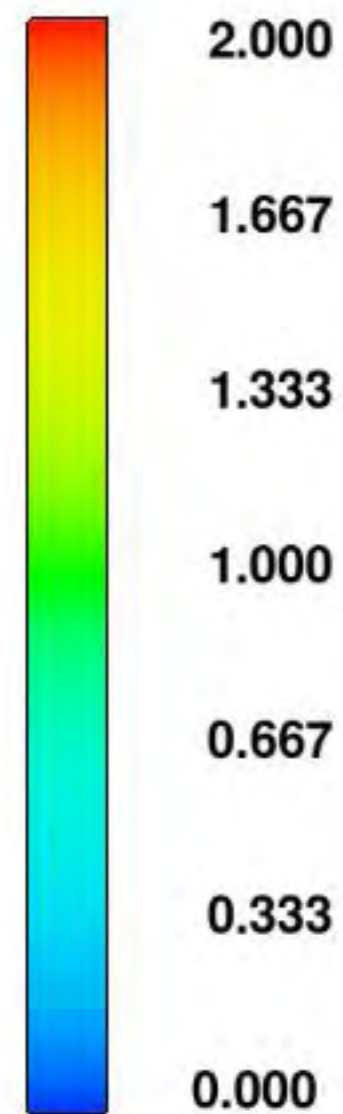
Solidification sequence

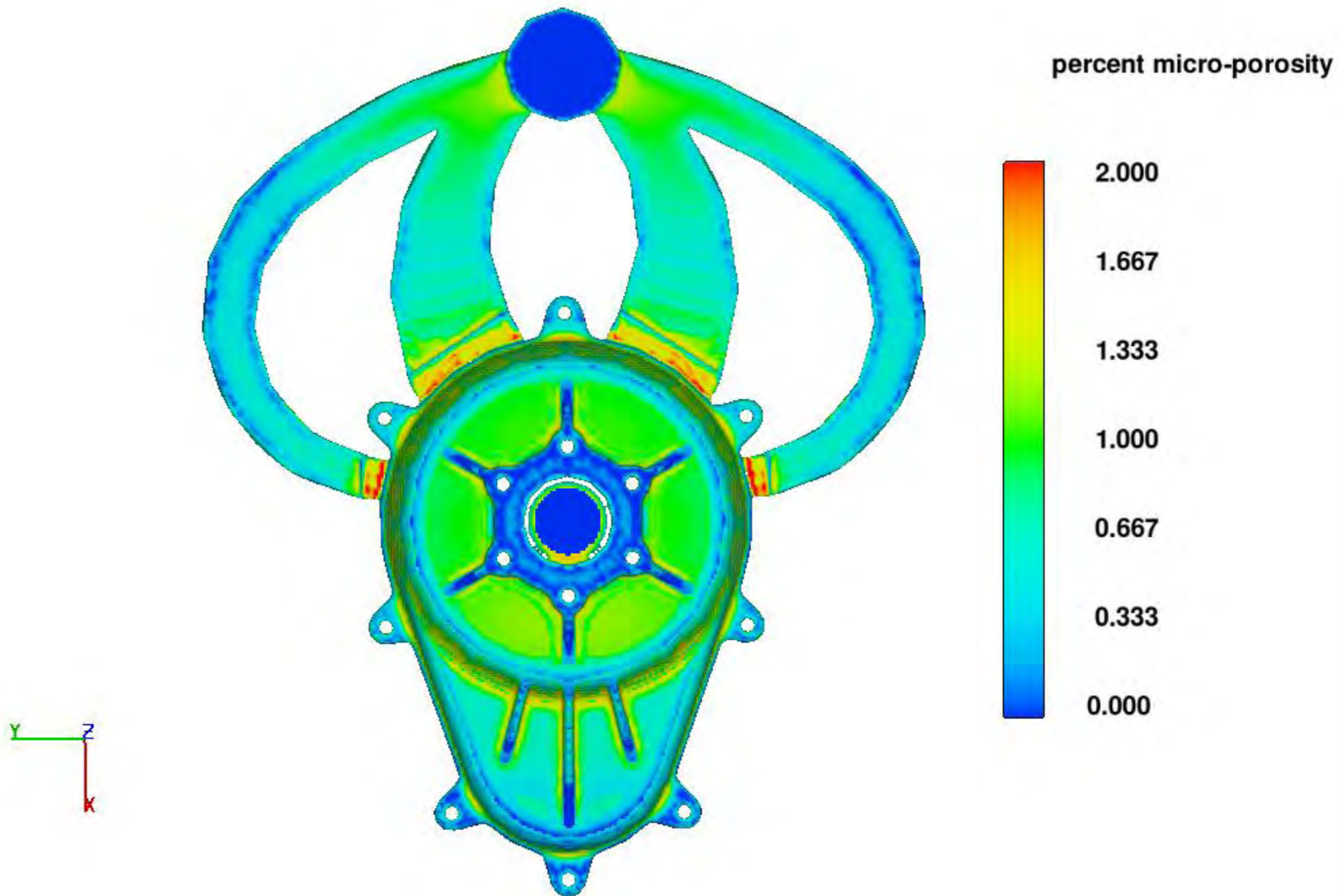
solid fraction

Time Frame : 1.773667

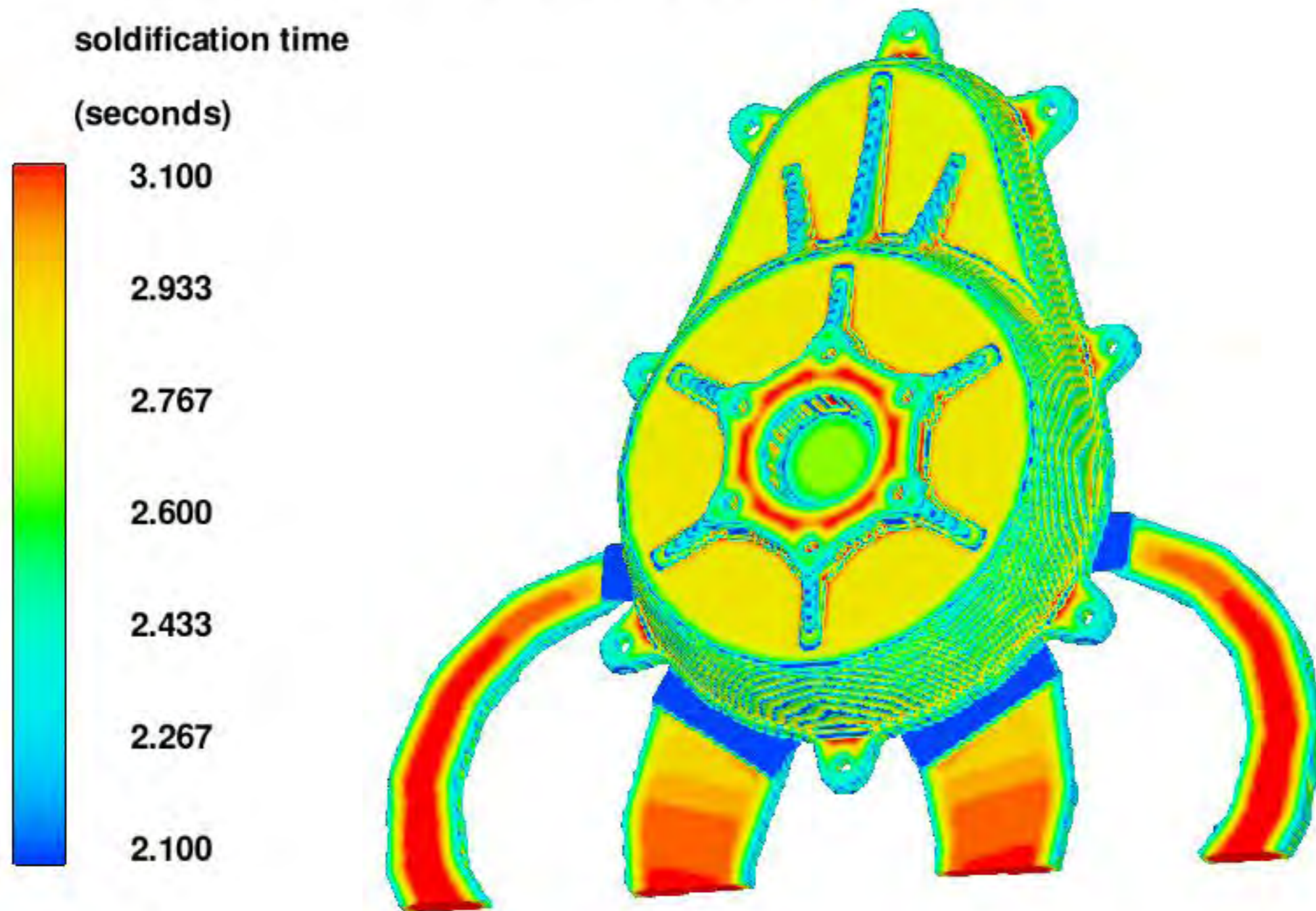


percent micro-porosity



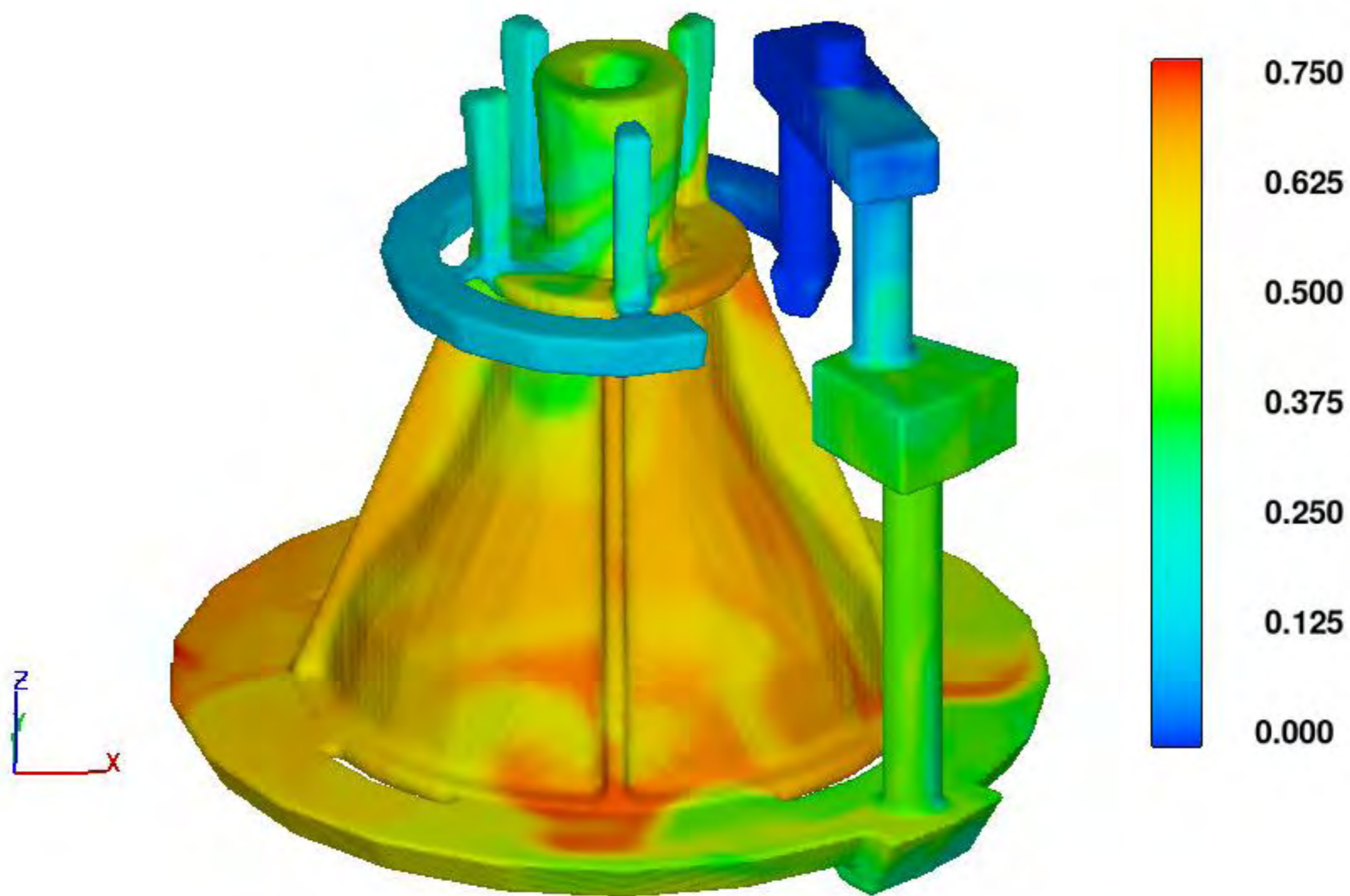


Solidification time. The filling ends at $t=1.77$ sec.

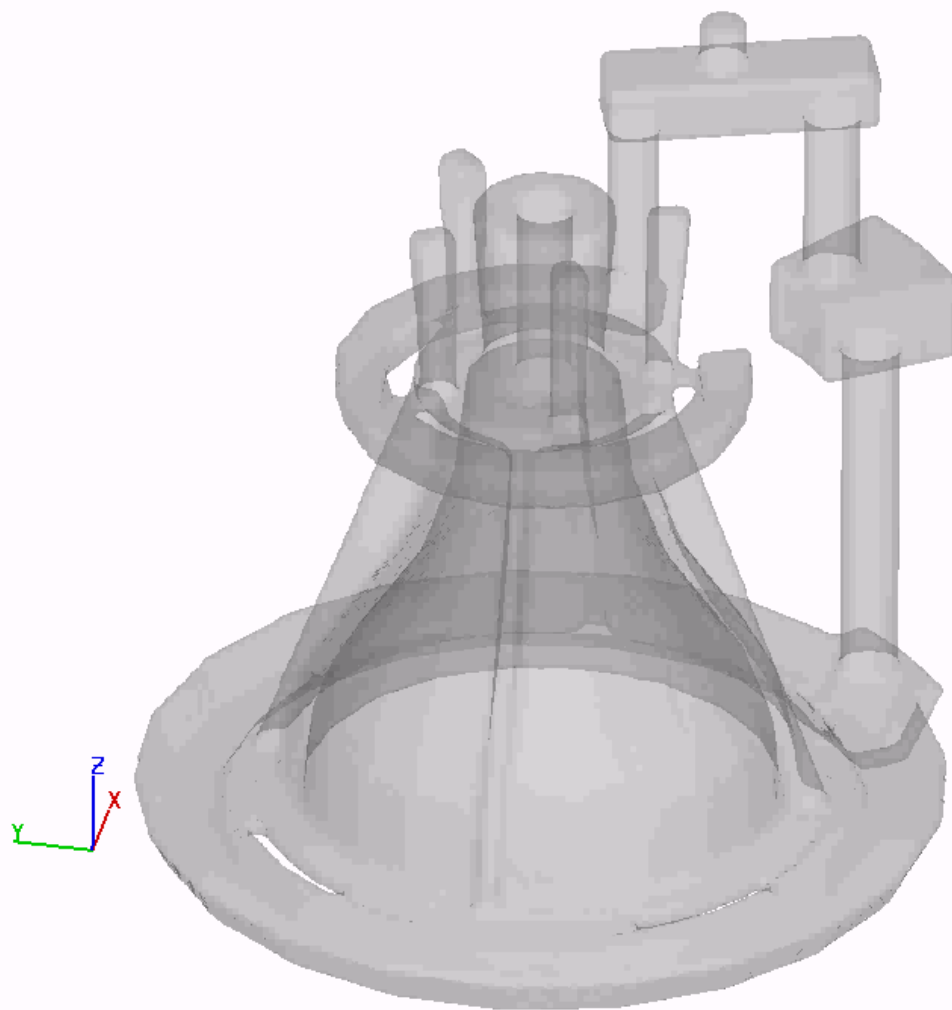




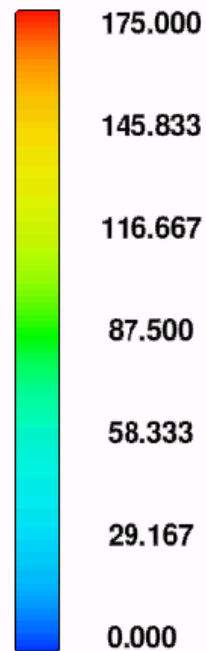
vol. fraction of entrained

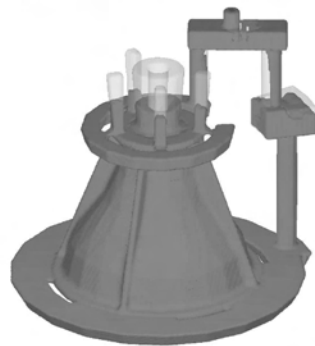
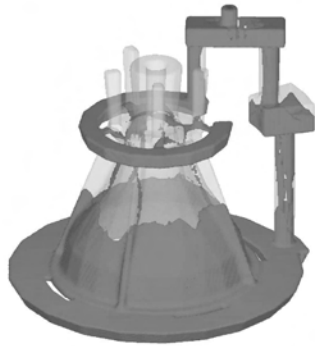
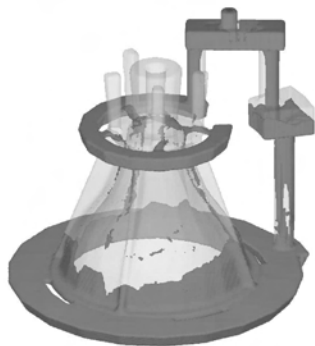
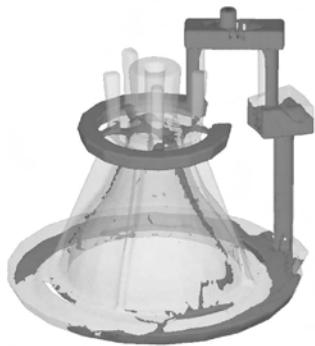


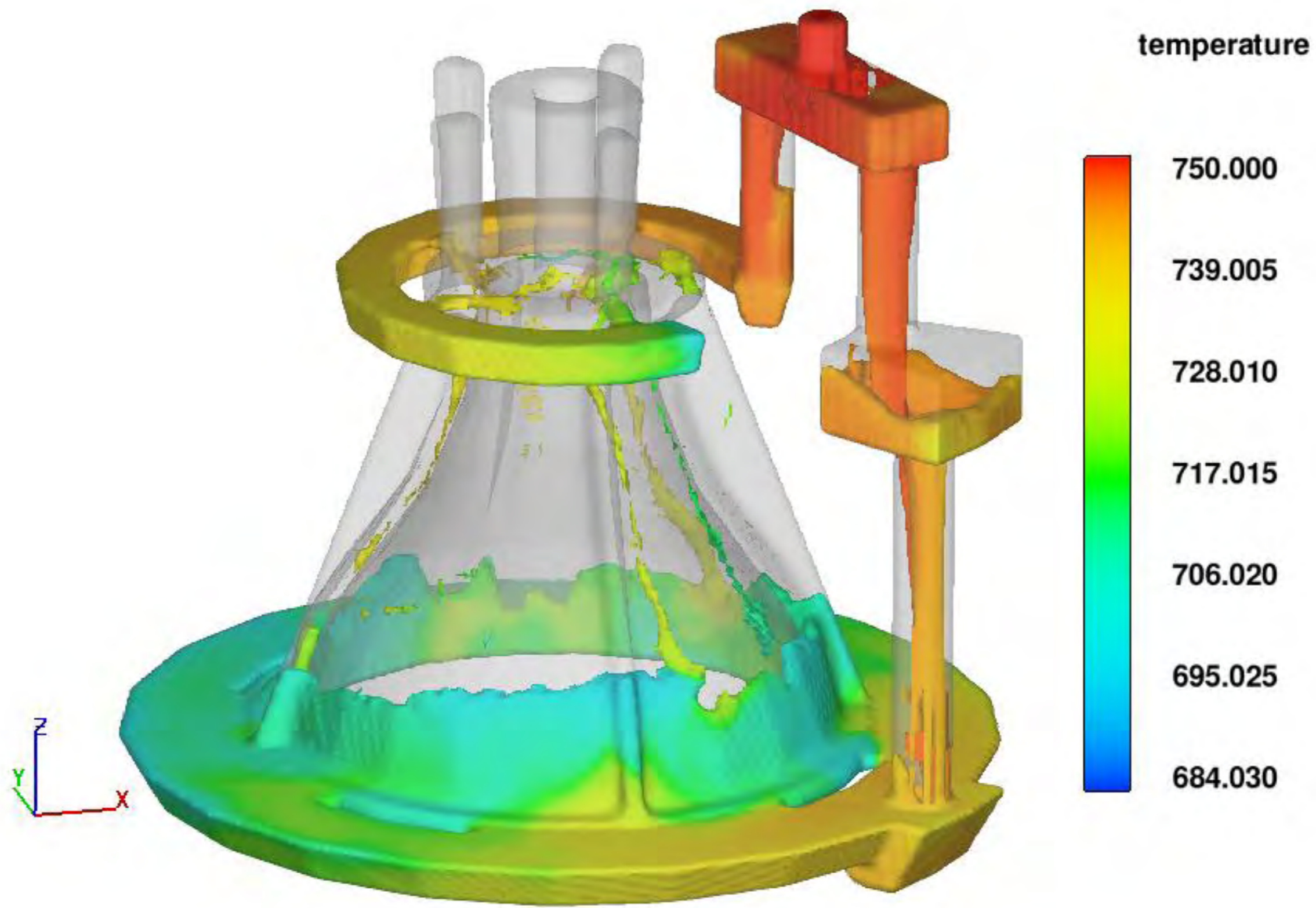


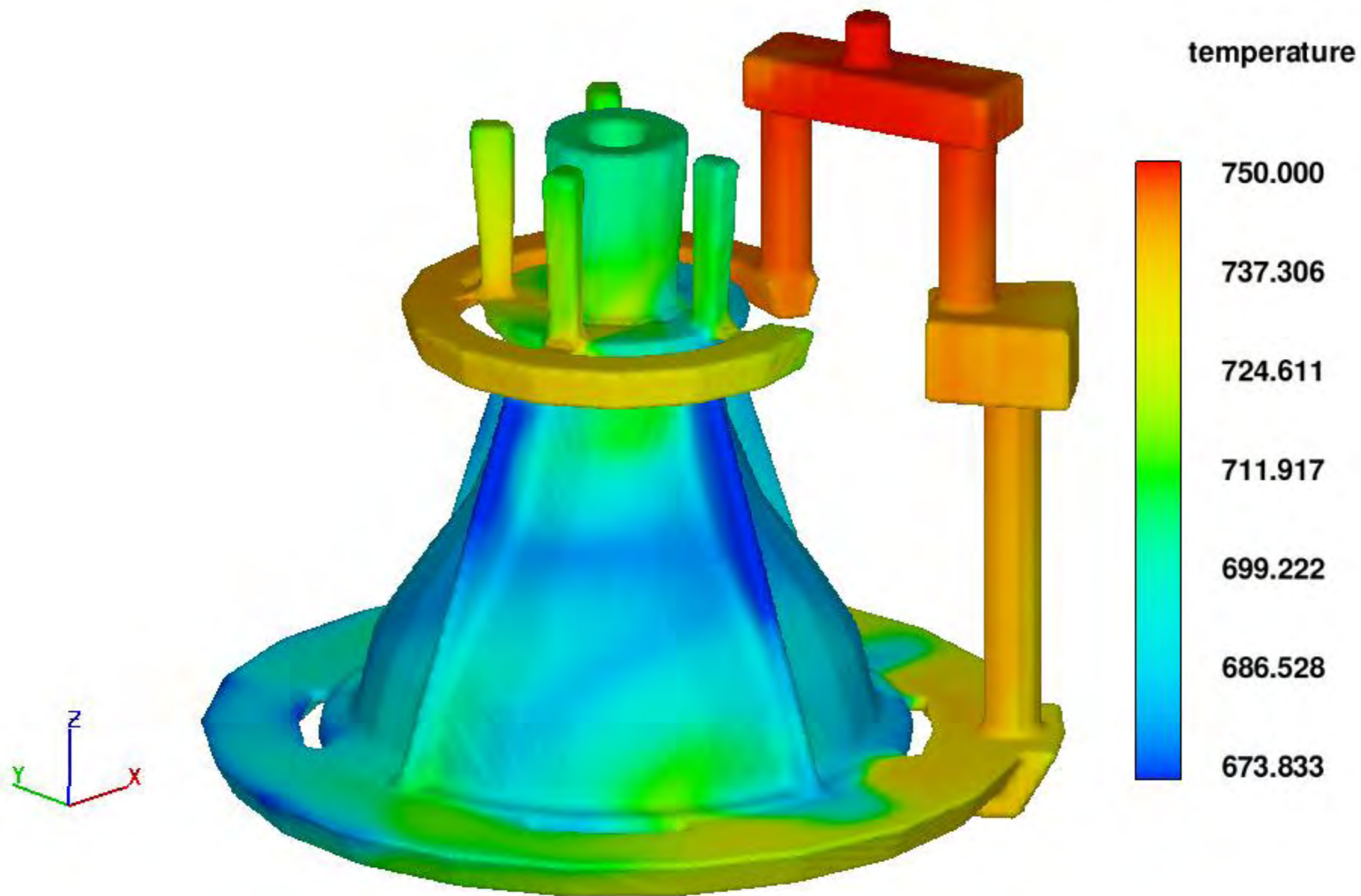


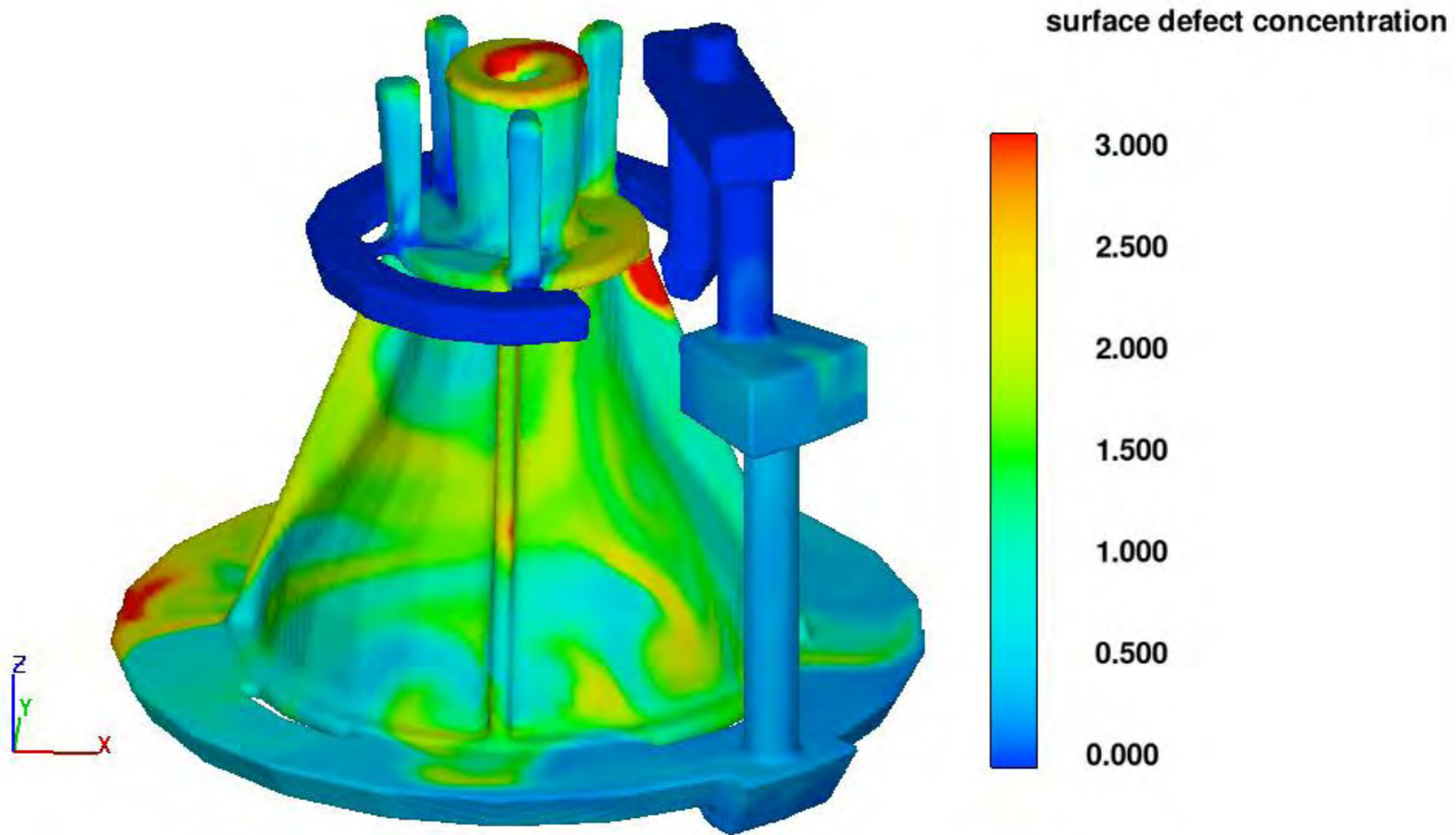
velocity magnitude





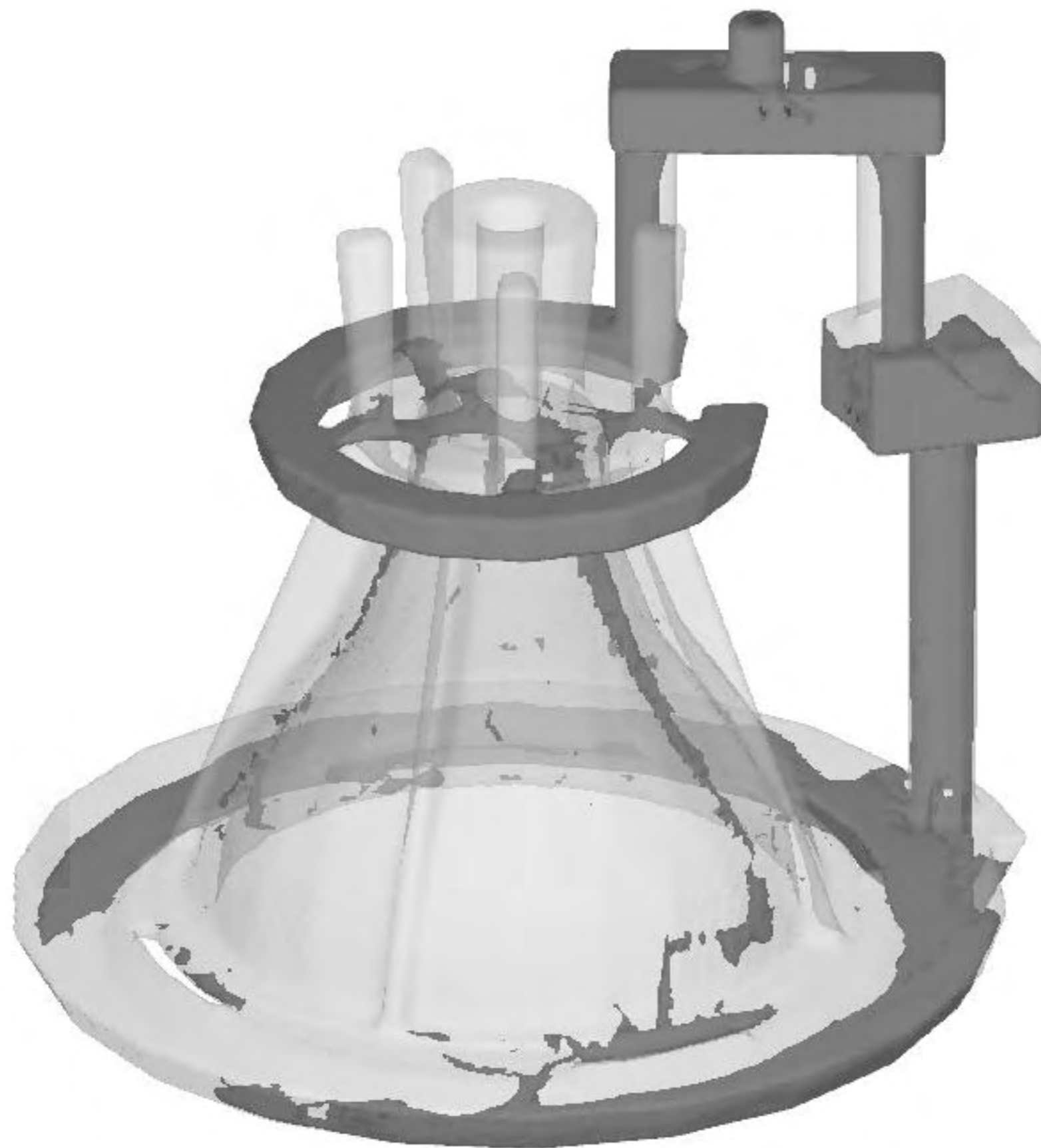


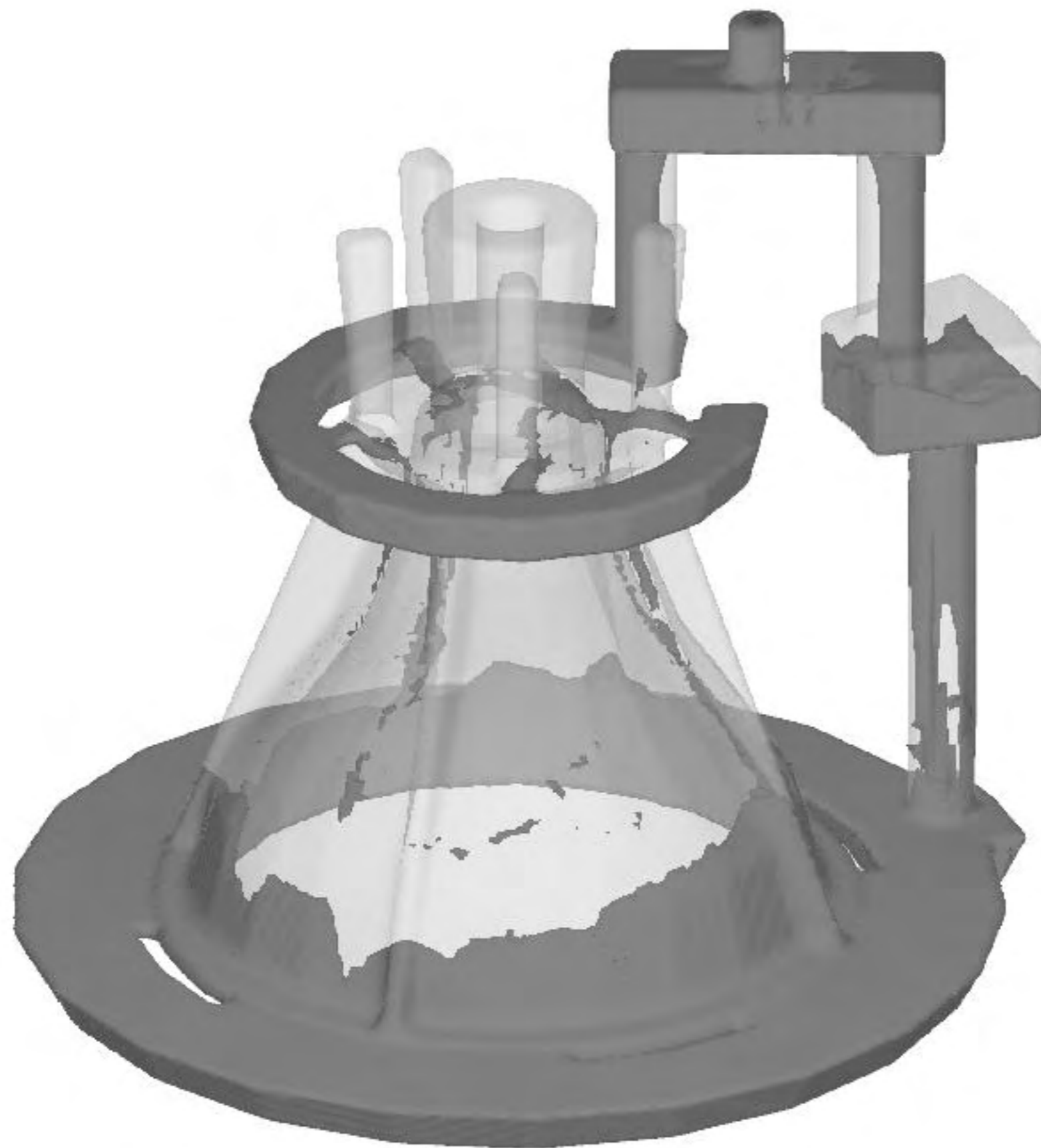


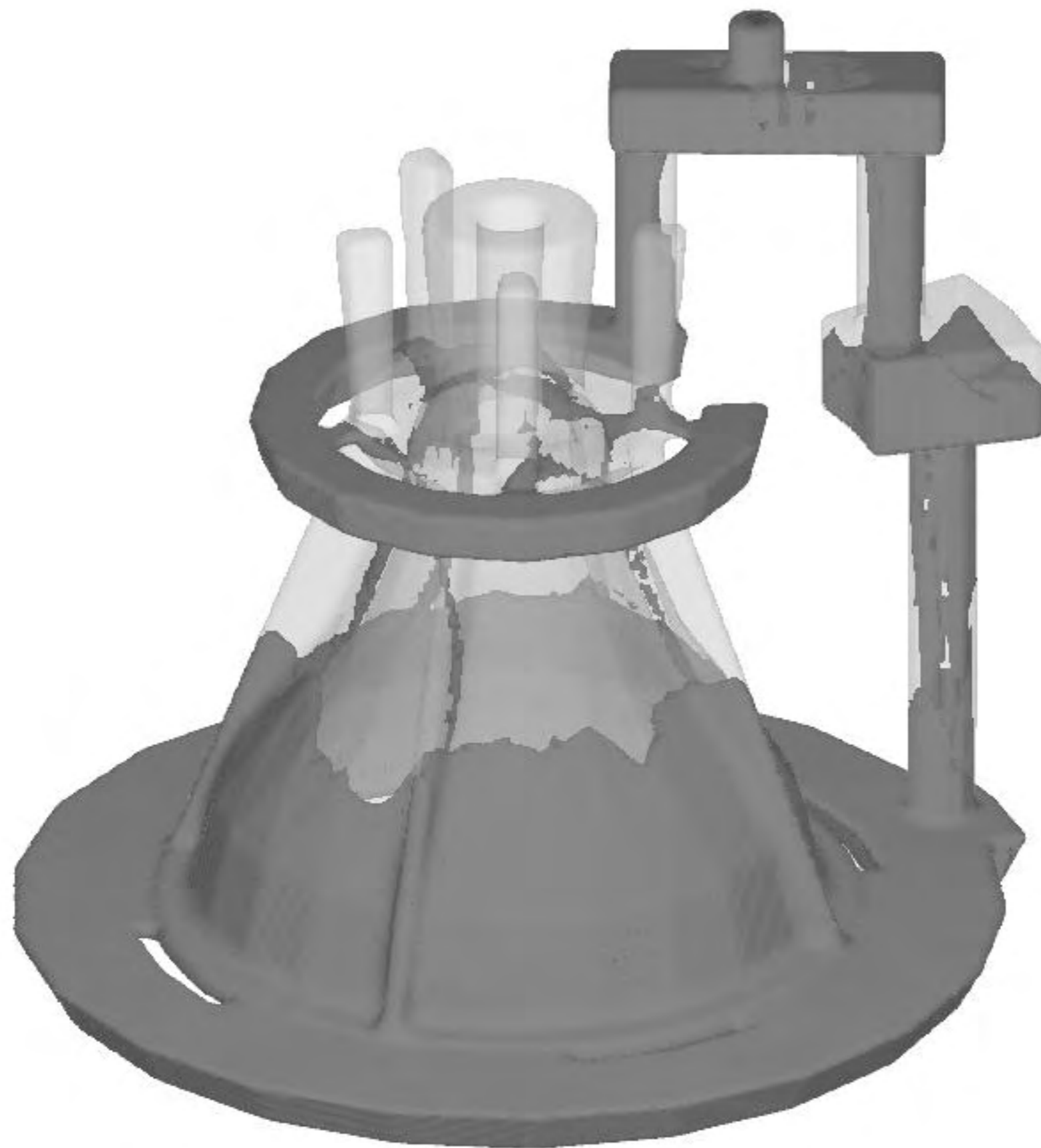


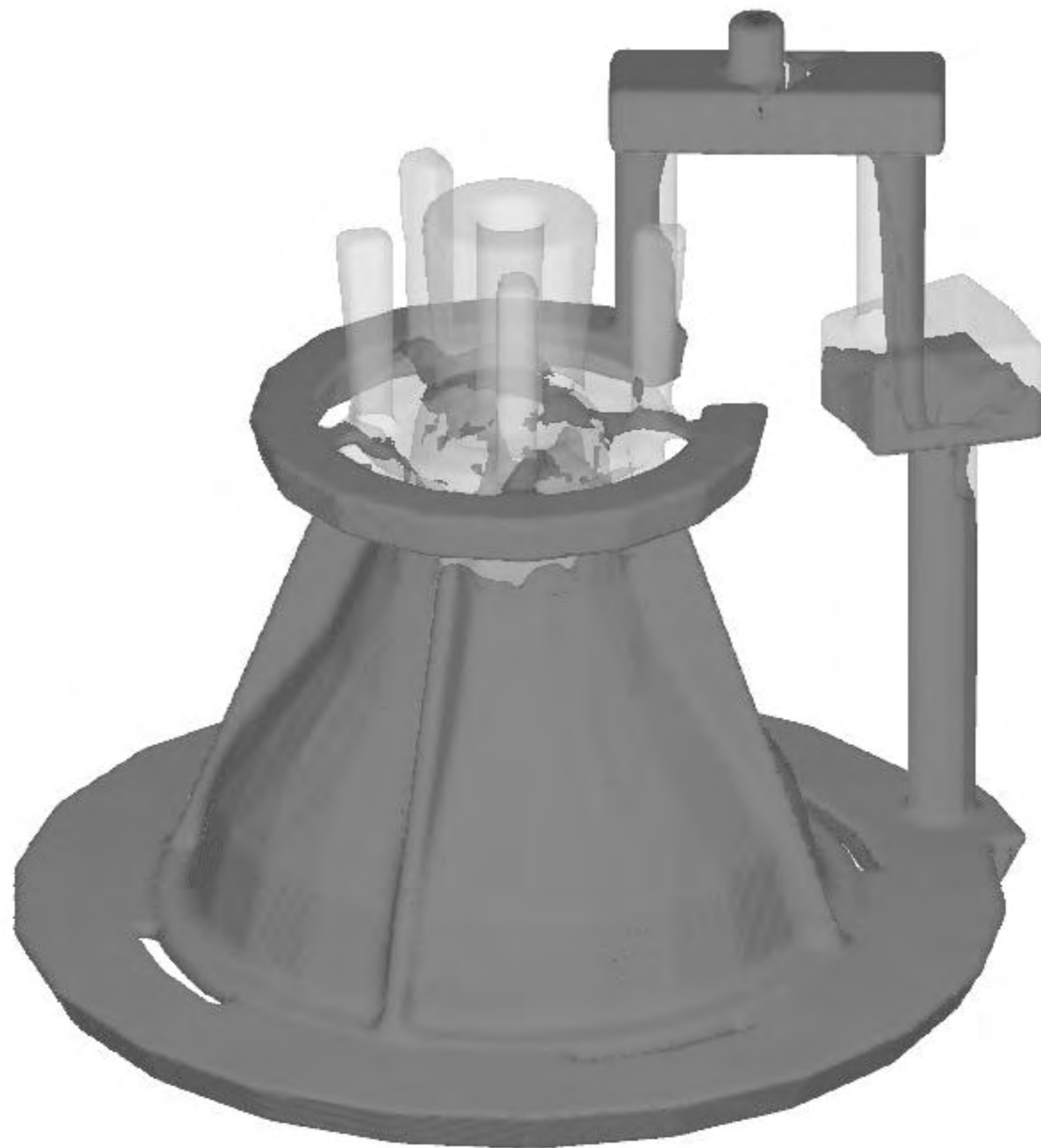


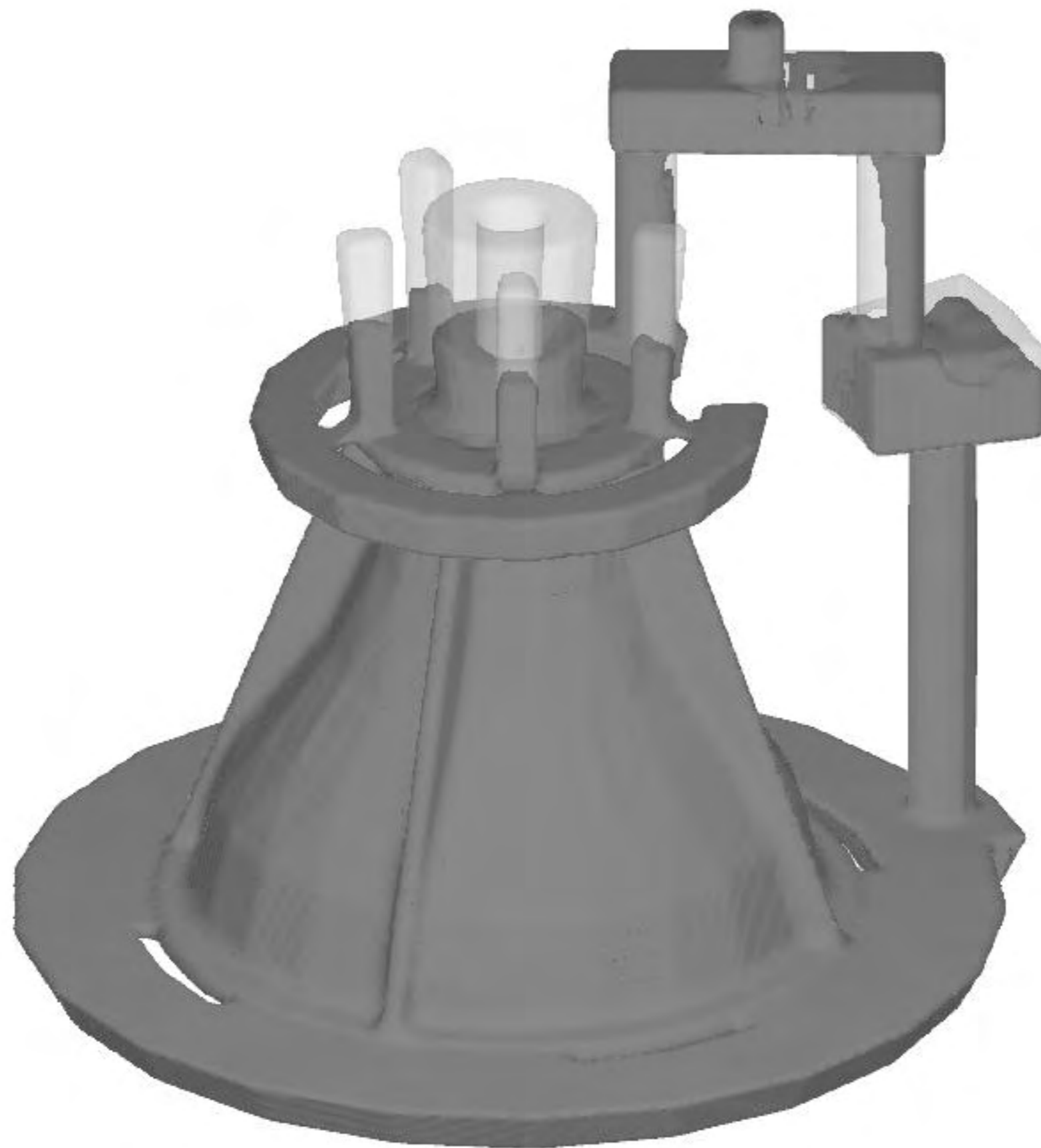












Sand casting - % microporosity

Time Frame : 1000.085449

percent micro-porosity

(degrees-k)

2.100

1.983

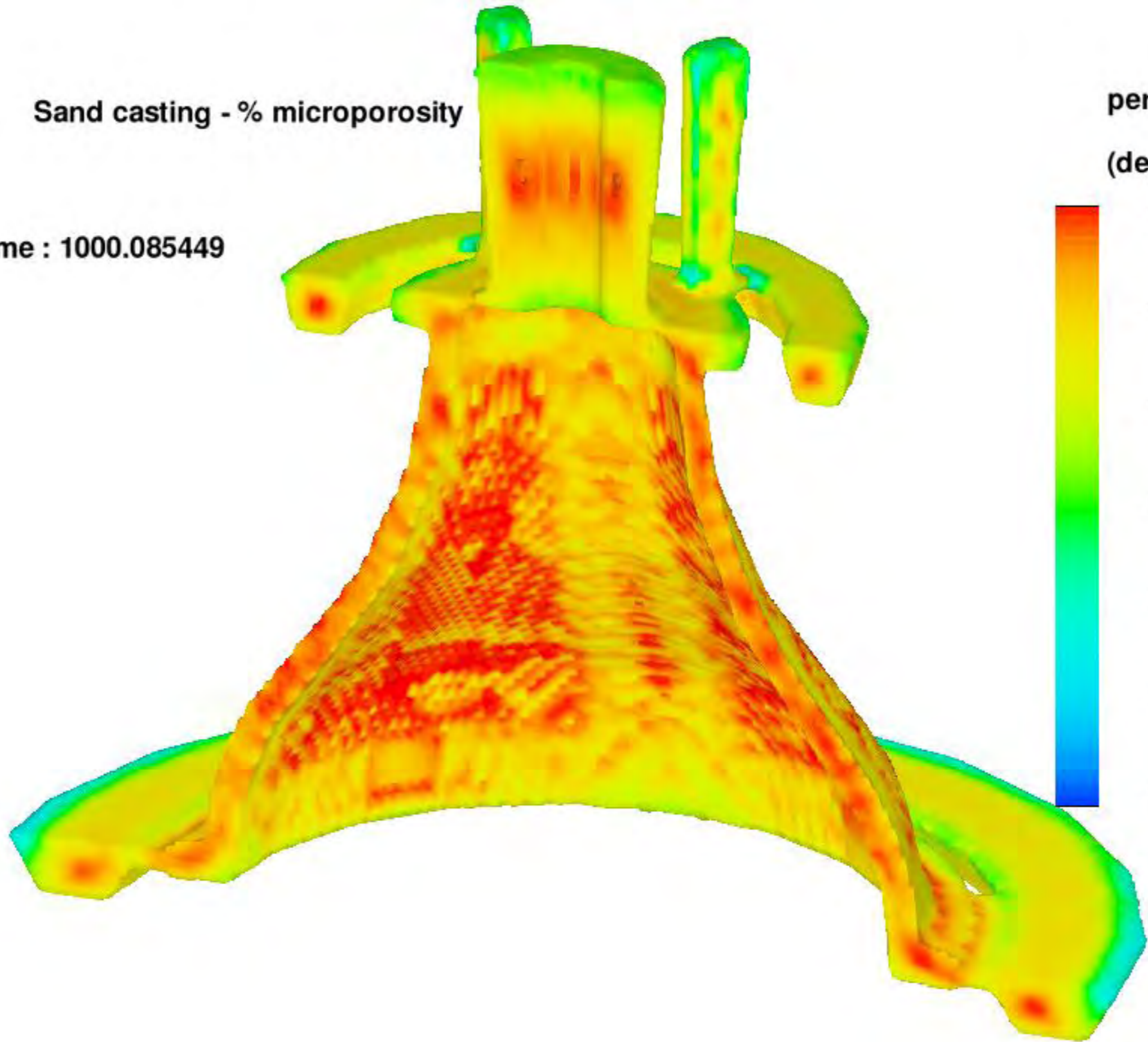
1.867

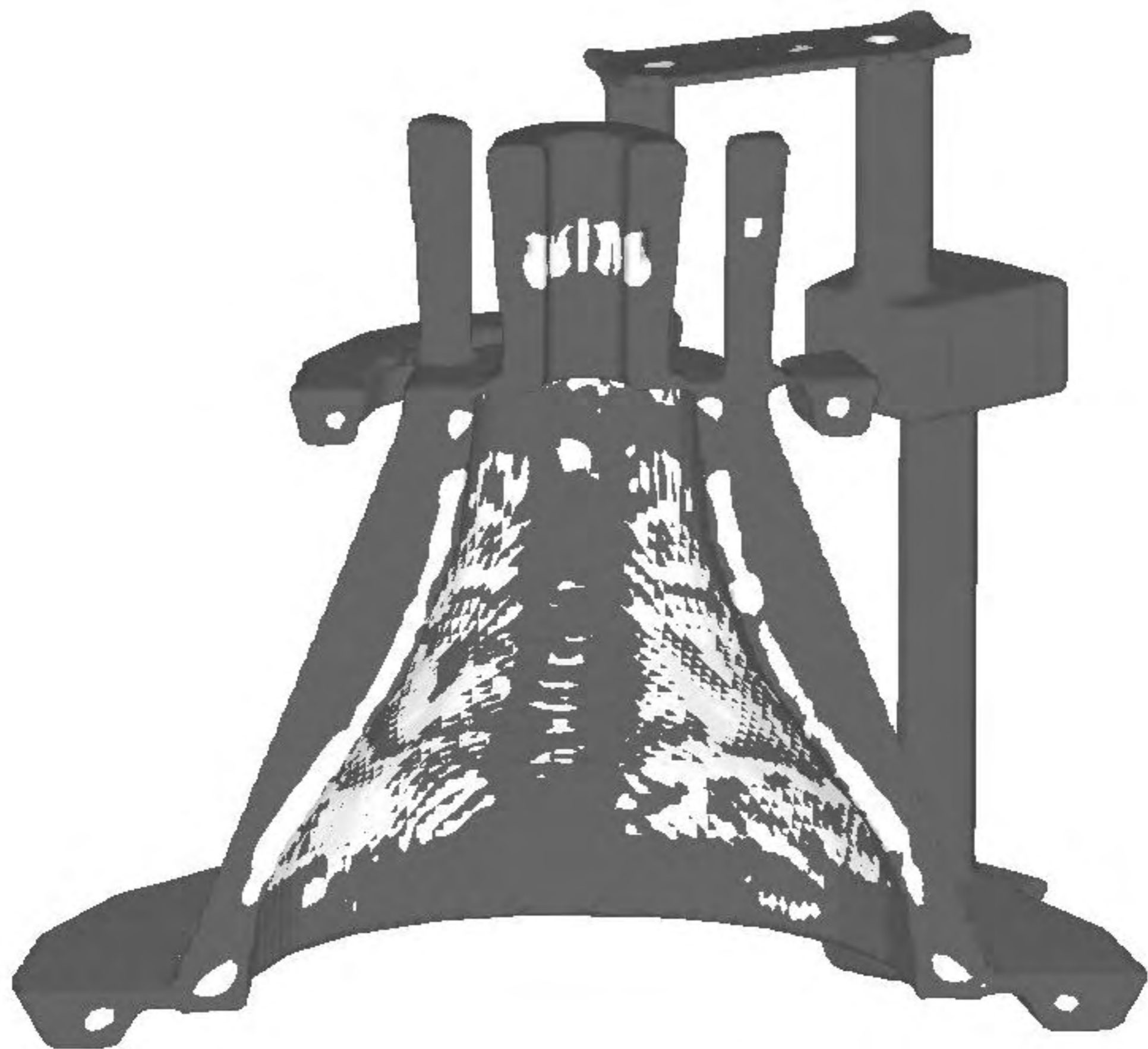
1.750

1.633

1.517

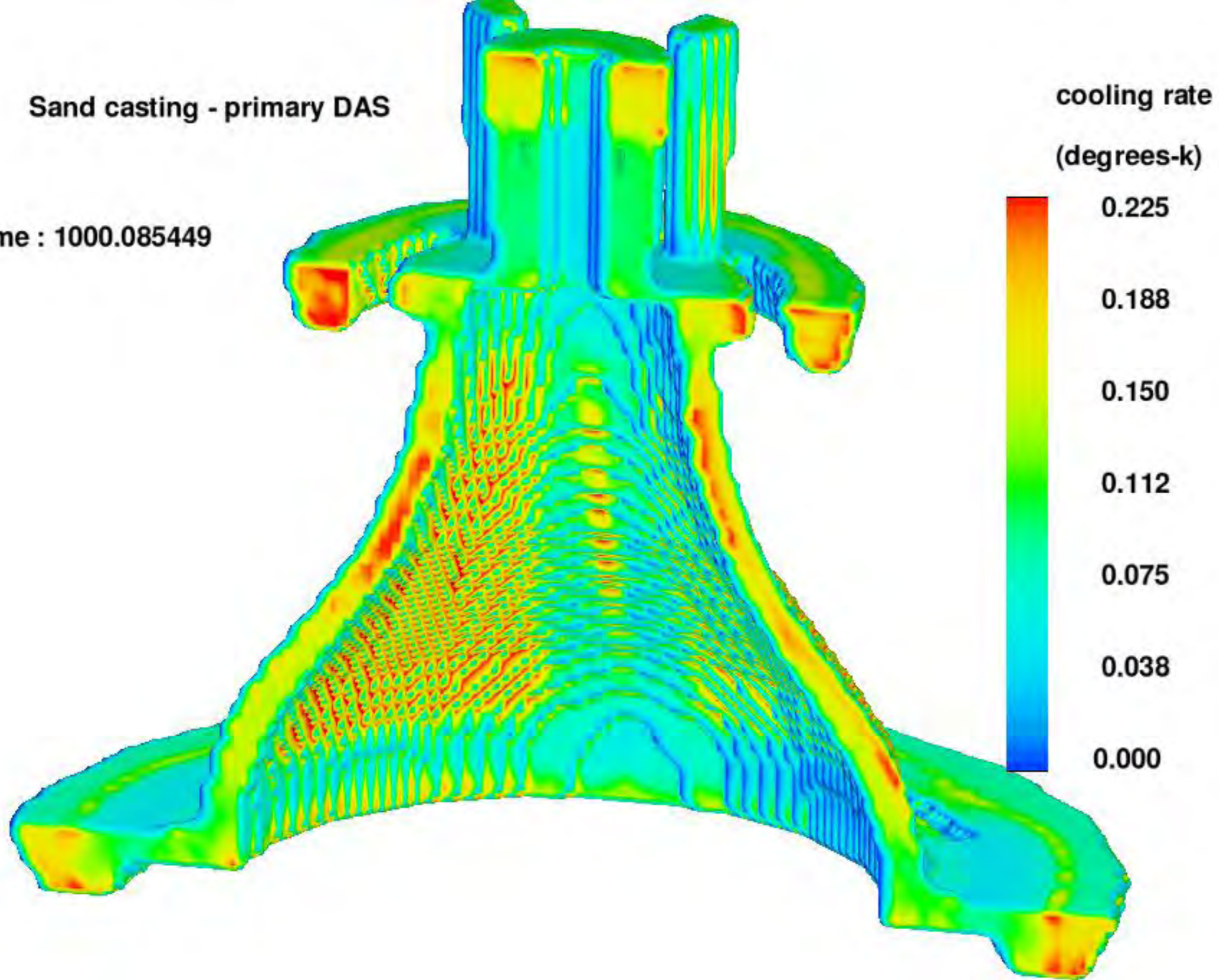
1.400





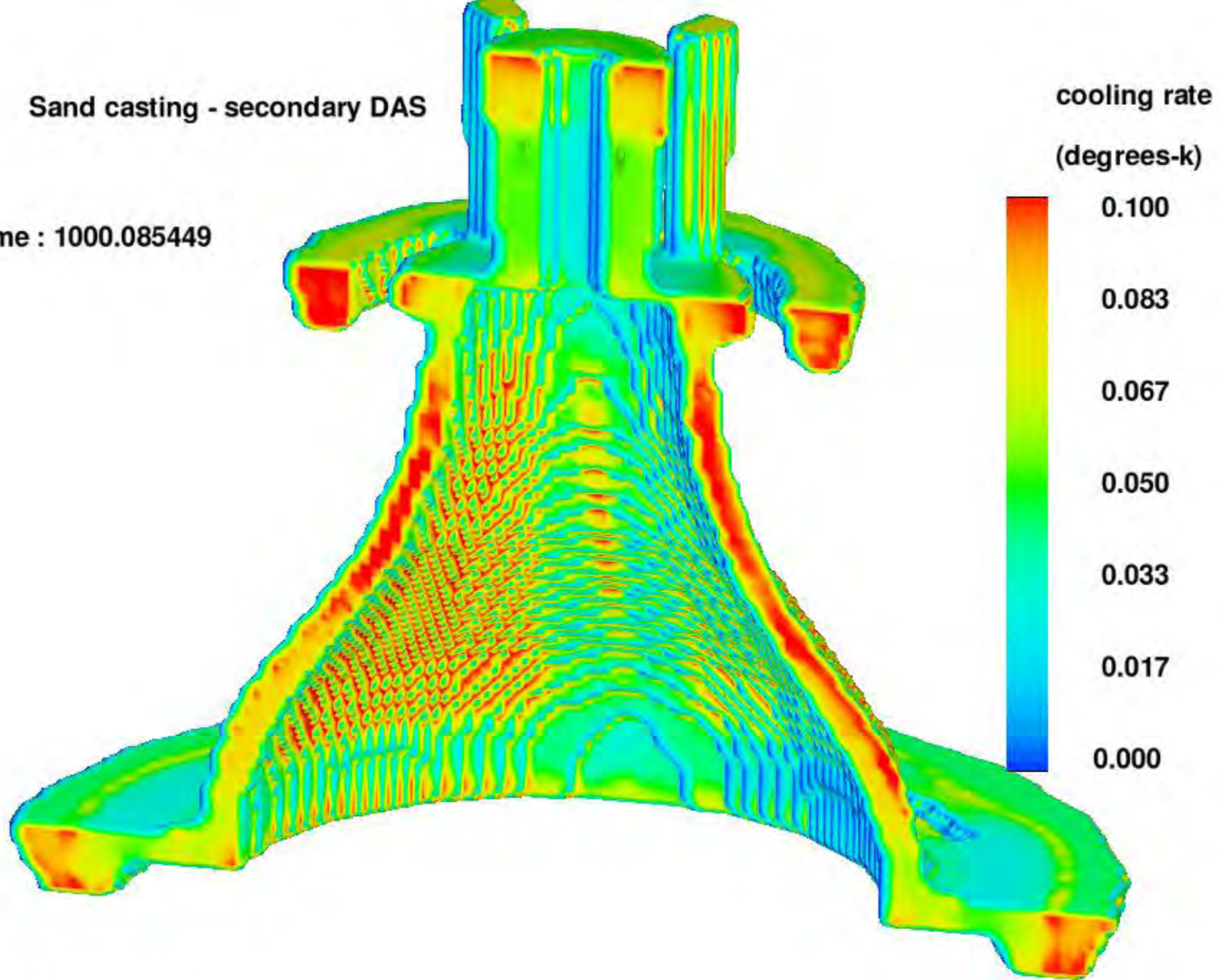
Sand casting - primary DAS

Time Frame : 1000.085449



Sand casting - secondary DAS

Time Frame : 1000.085449



z

velocity magnitude (meters/s)

*

m

e

t

r

s

*

0.000E+00

0.000E+00

0.11

-0.01

-0.10

0.08

0.26

0.44

0.62

0.80

x * meters*

FLOW-3D t=0.0 y=5.000E-02 ix=2 to 142 kz=2 to 20
10:27:26 11/29/2006 acap hydr3d: version 9.2m amd64-win 2006
Title

Flow during slowshot stage in cylindrical channel, with plunger velocity given by curve #6 in Figure 4.9

Time Frame : 0.000000

velocity magnitude

(meters/s)

1.000

0.833

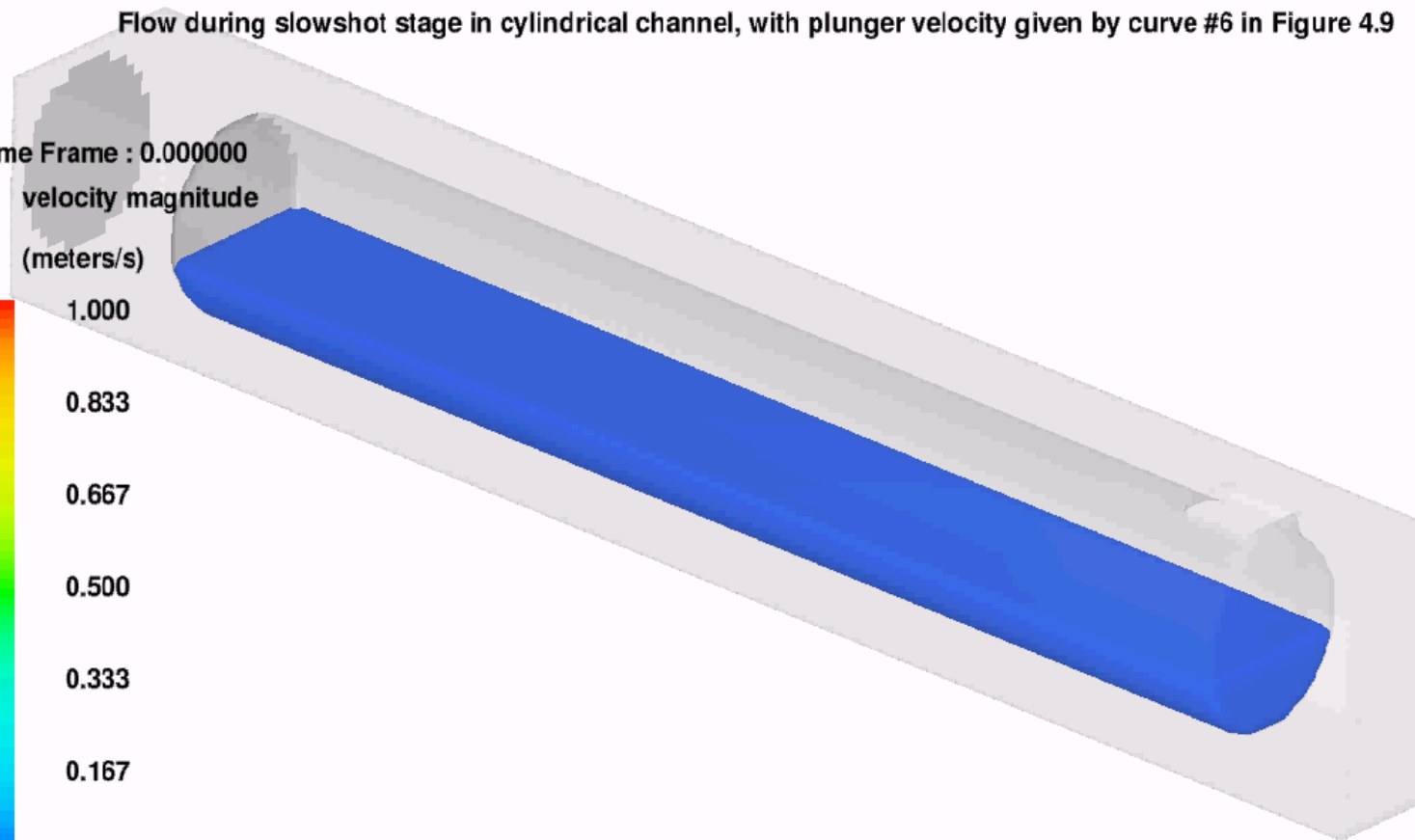
0.667

0.500

0.333

0.167

0.000

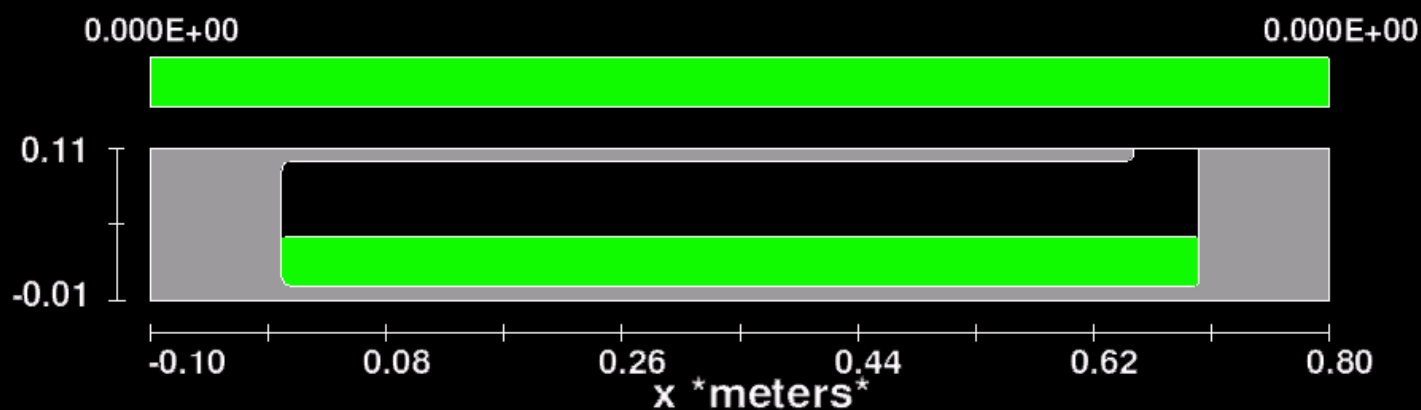


z

*

m
e
t
e
r
s
*

velocity magnitude (meters/s)

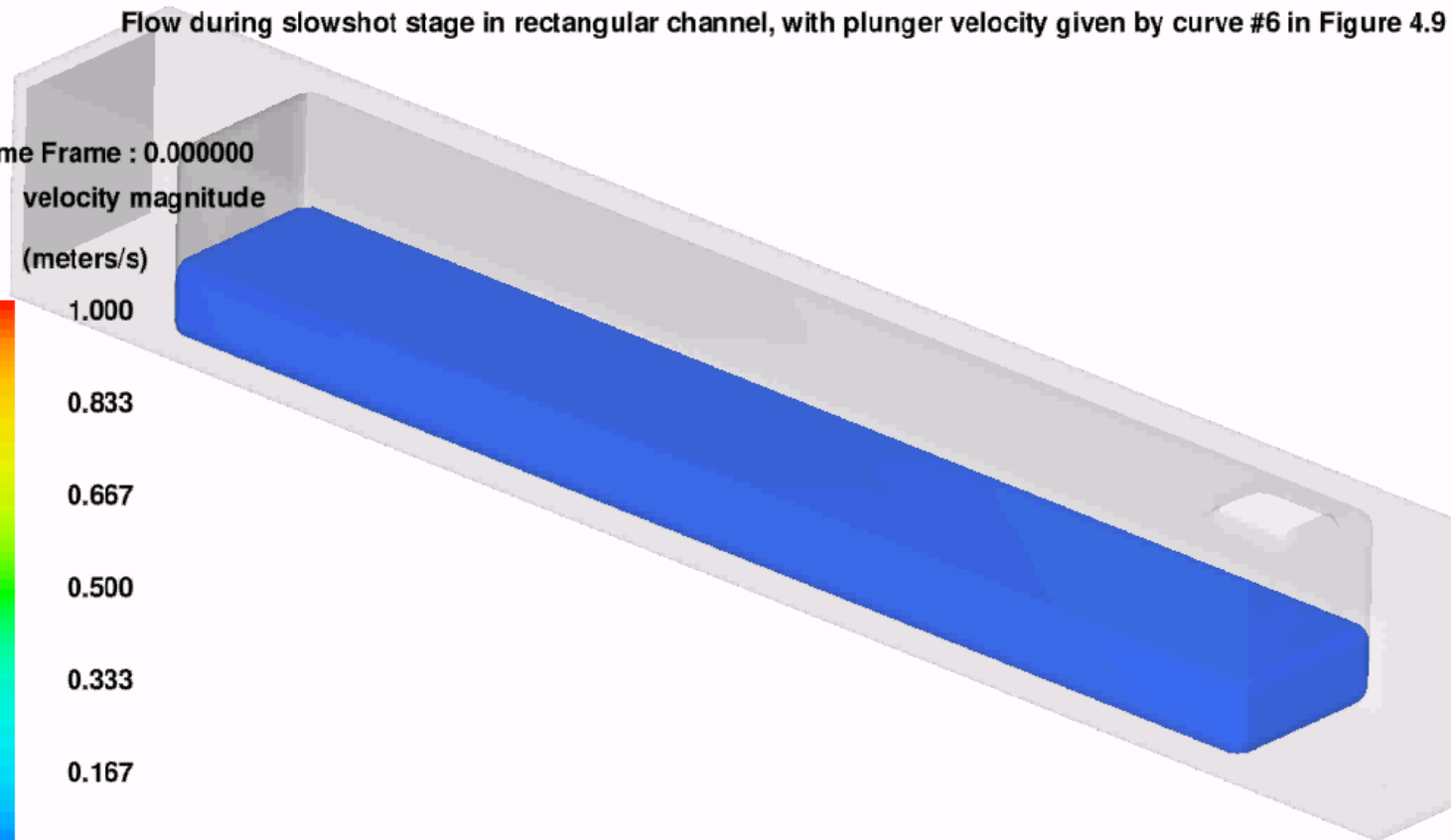


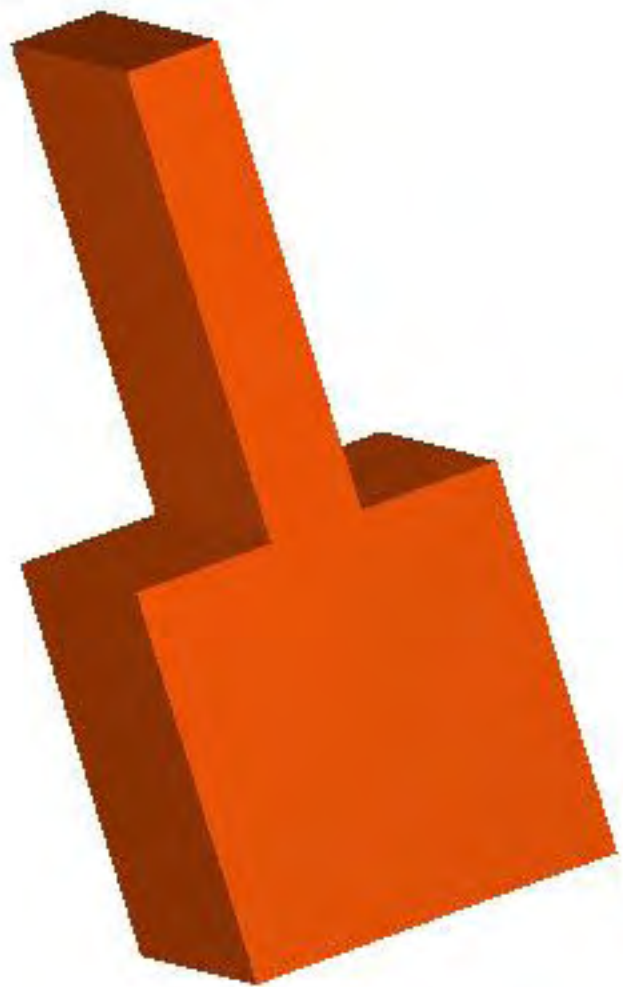
FLOW-3D t=0.0 y=5.000E-02 ix=2 to 142 kz=2 to 20
09:52:08 11/29/2006 tpon hydr3d: version 9.2m amd64-win 2006
Title

Flow during slowshot stage in rectangular channel, with plunger velocity given by curve #6 in Figure 4.9

Time Frame : 0.000000
velocity magnitude
(meters/s)

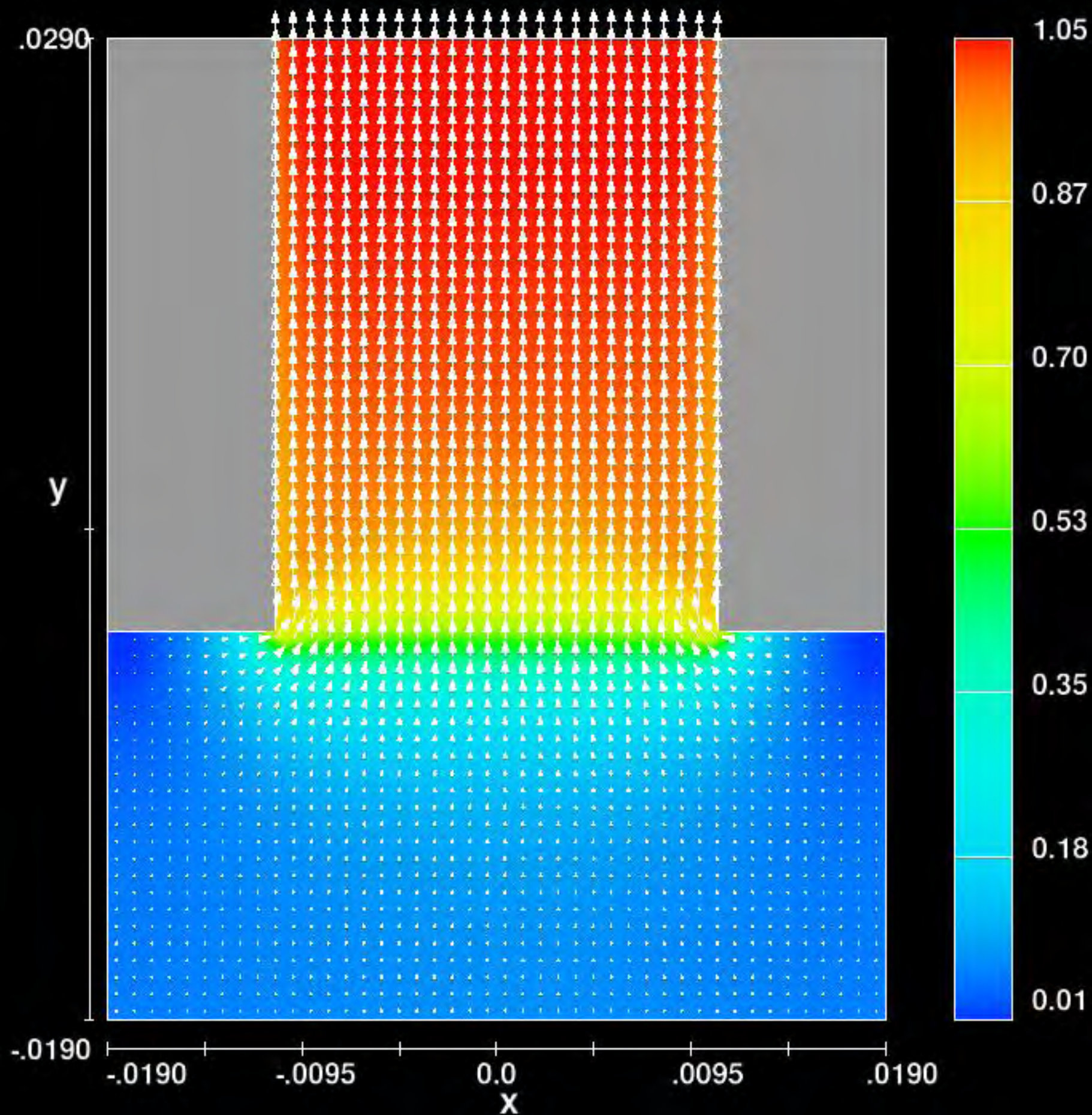
1.000
0.833
0.667
0.500
0.333
0.167
0.000



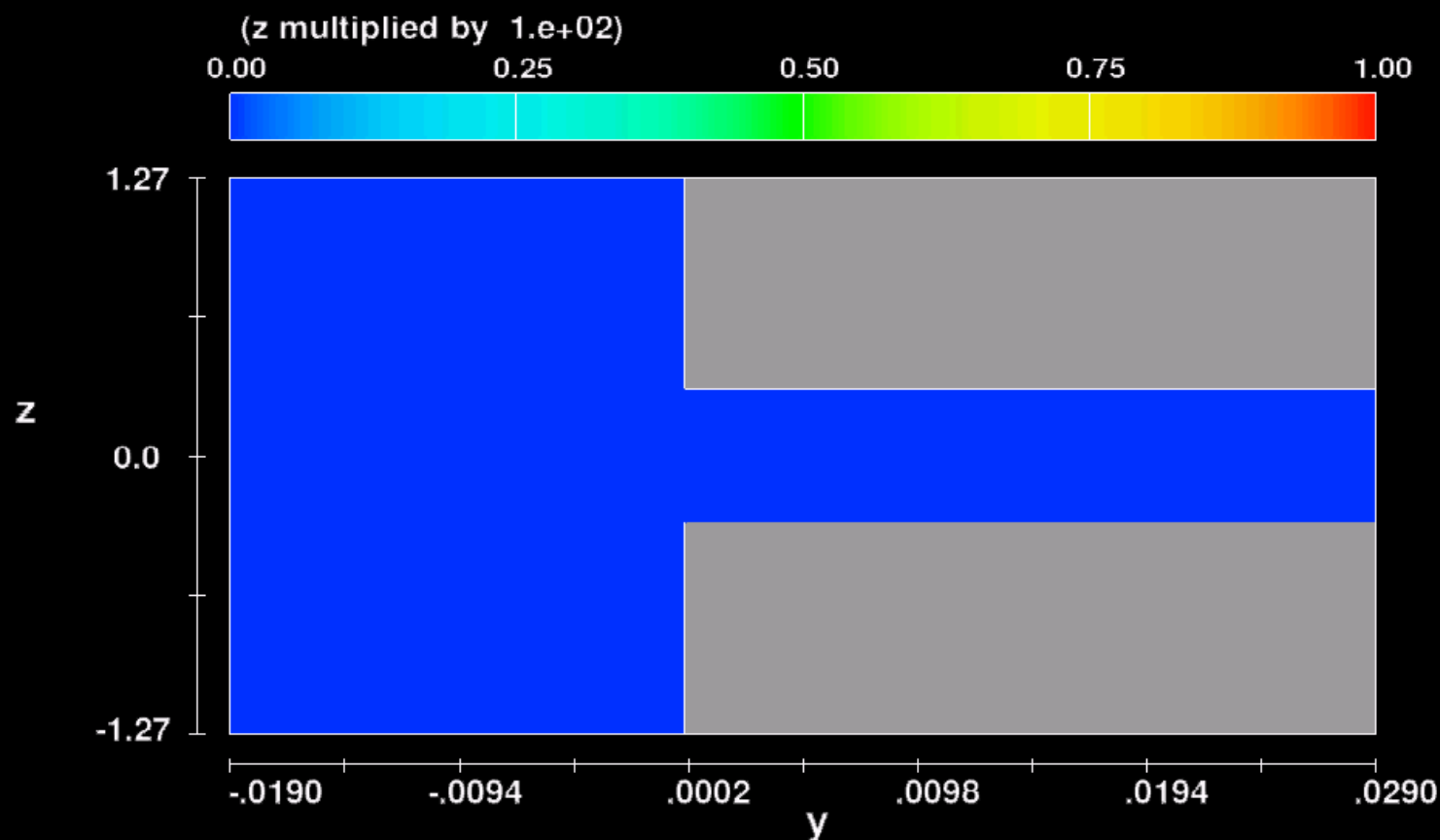


Mach number and vectors

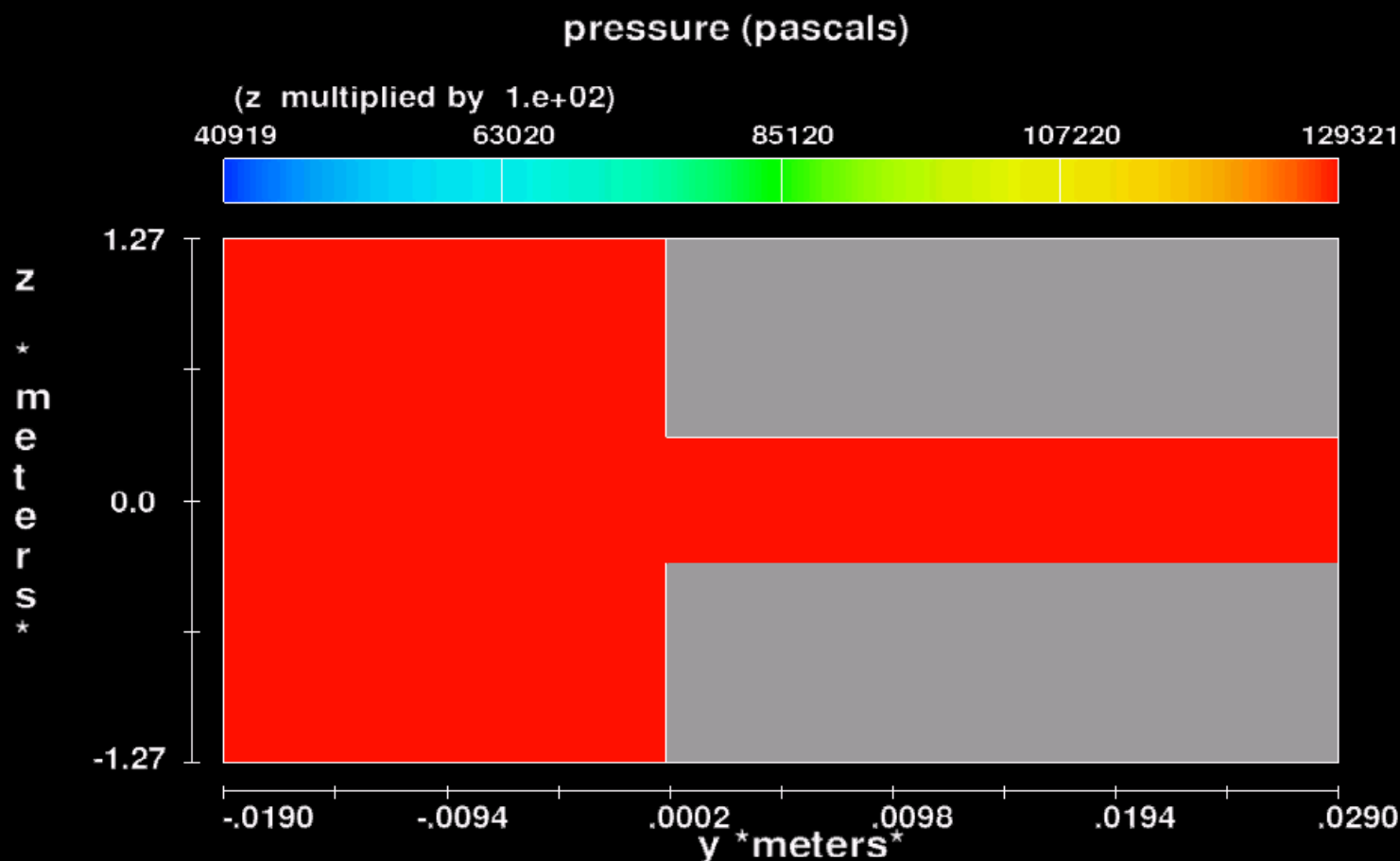
(max=3.15E+02)



Mach number

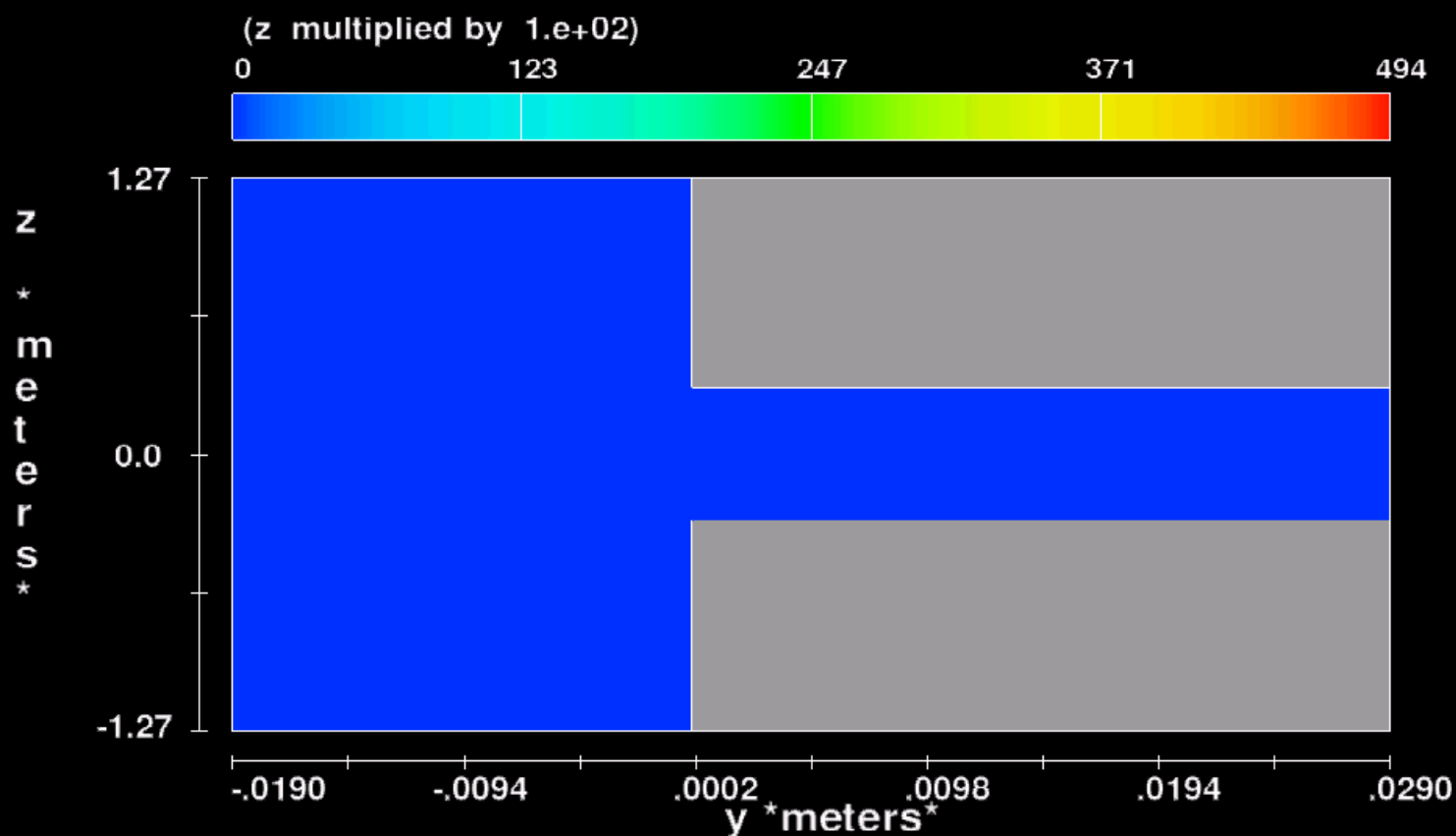


FLOW-3D t=0.0 x=-5.614E-03 jy=3 to 60 kz=2 to 30
09:54:47 10/12/2006 khva hydr3d: version 9.2g win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION



FLOW-3D t=0.0 x=4.318E-04 jy=3 to 60 kz=2 to 30
09:54:47 10/12/2006 khva hydr3d: version 9.2g win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION

velocity magnitude (meters/s)



FLOW-3D t=0.0 x=4.318E-04 jy=3 to 60 kz=2 to 30
09:54:47 10/12/2006 khva hydr3d: version 9.2g win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION

temperature (degrees-k)

(z multiplied by 1.e+02)

315.3867

315.3900

315.3933

315.3967

315.4000

z
*
m
e
t
e
r
s
*

1.27

0.0

-1.27

-.0190

-.0094

.0002

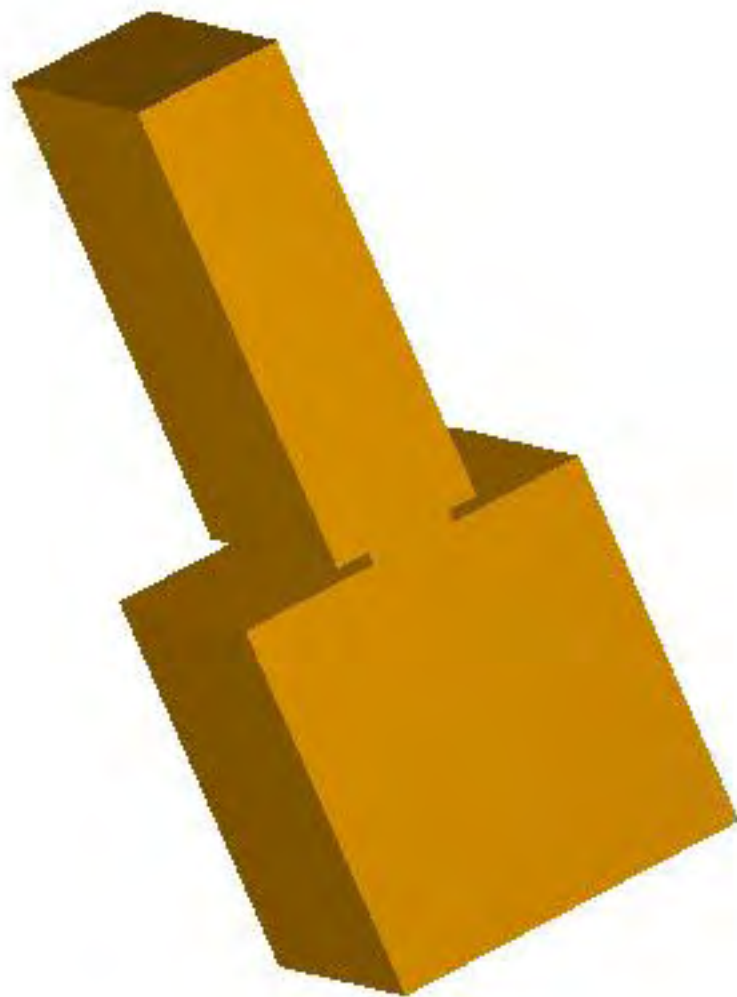
.0098

.0194

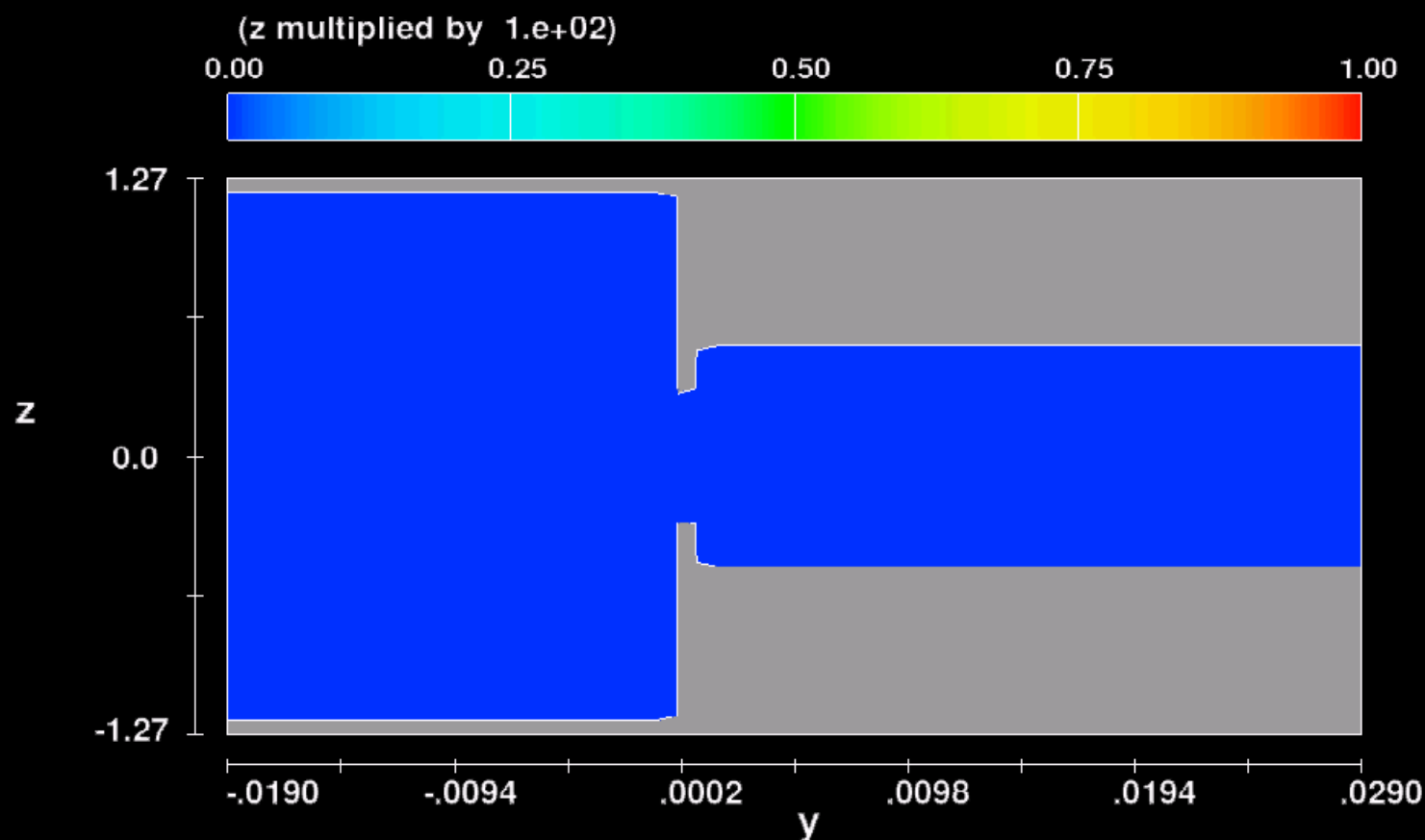
.0290

y * meters*

FLOW-3D t=0.0 x=4.318E-04 jy=3 to 60 kz=2 to 30
09:54:47 10/12/2006 khva hydr3d: version 9.2g win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION

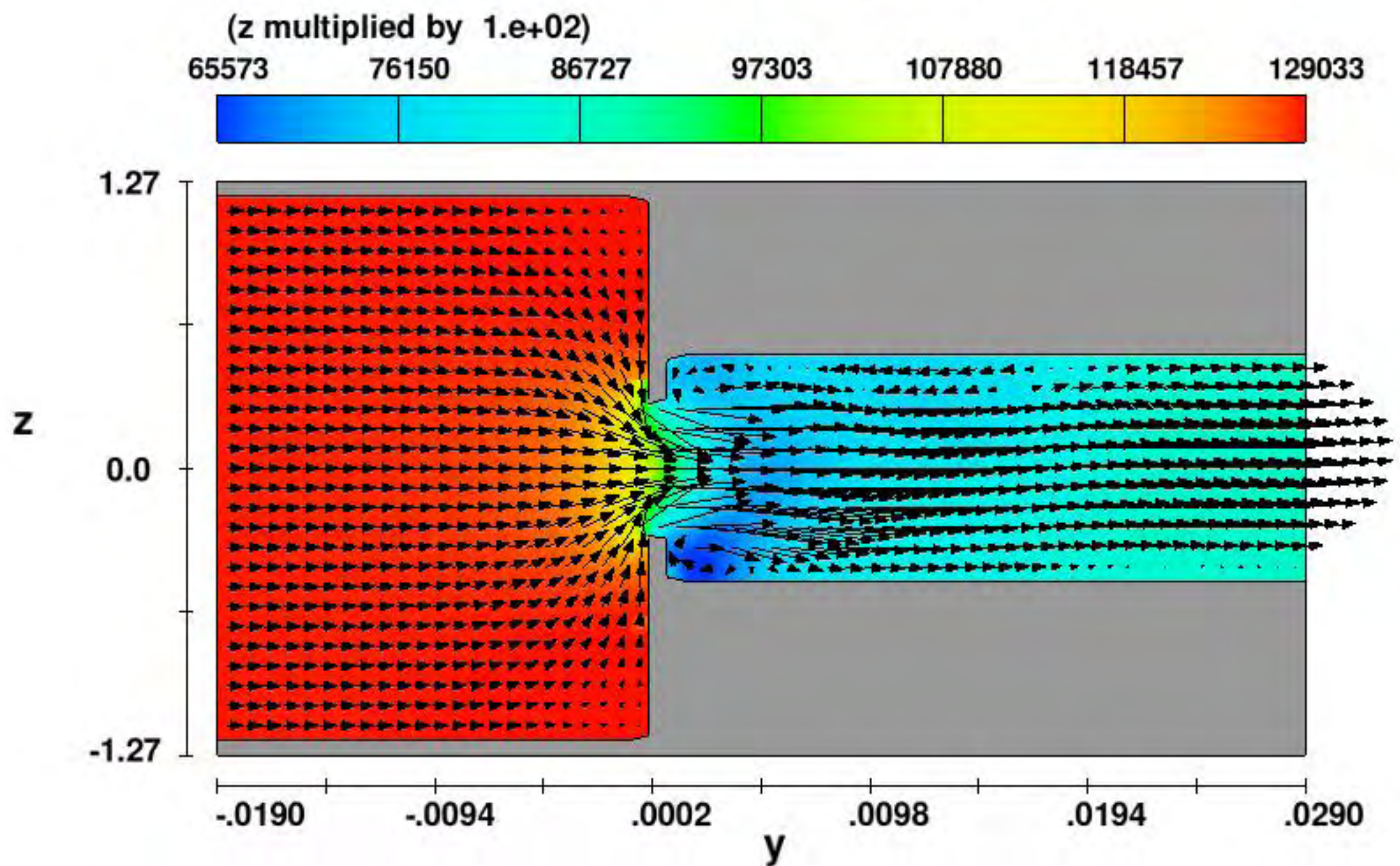


Mach number



FLOW-3D t=0.0 x=-5.614E-03 iy=3 to 60 kz=2 to 30
11:23:28 10/23/2006 apiy hydr3d: version 9.1.1 win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION

pressure and vectors (vmax=3.23E+02)



pressure (pascals)

(z multiplied by 1.e+02)

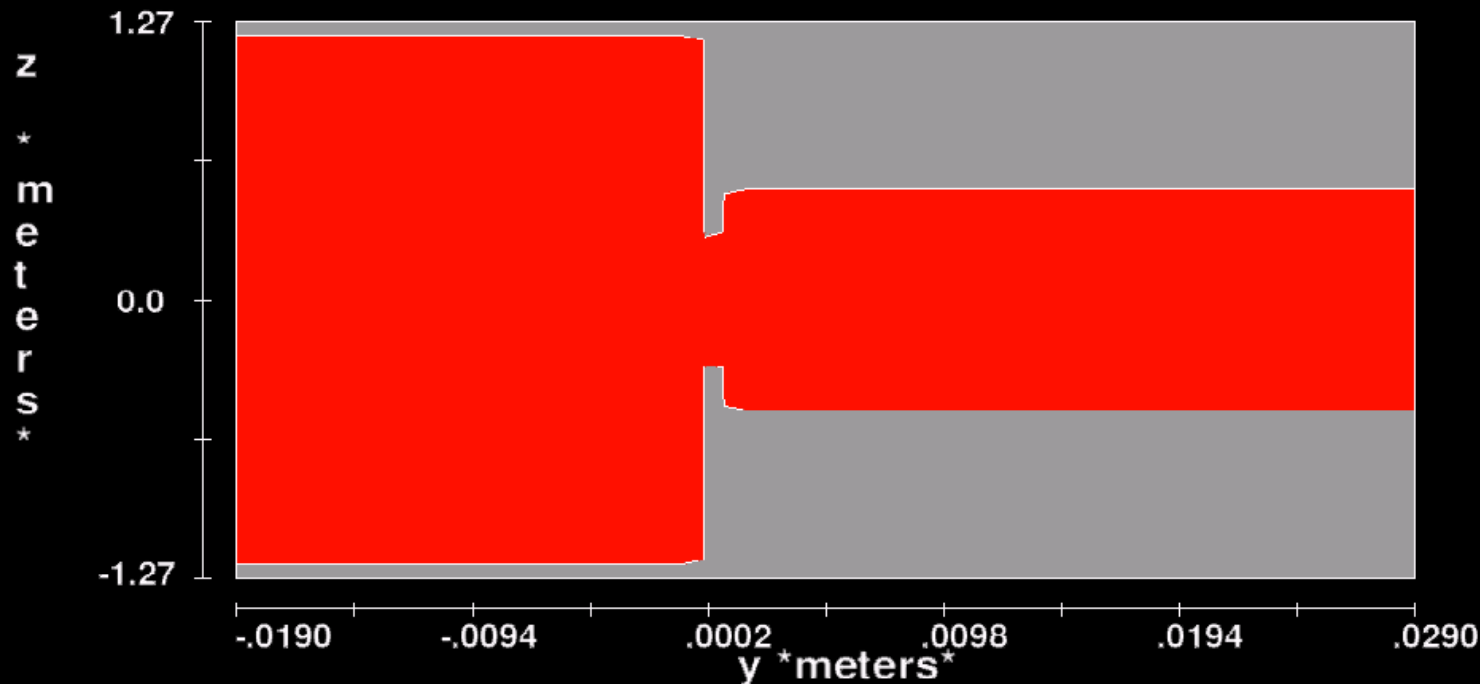
29962

54837

79712

104586

129461

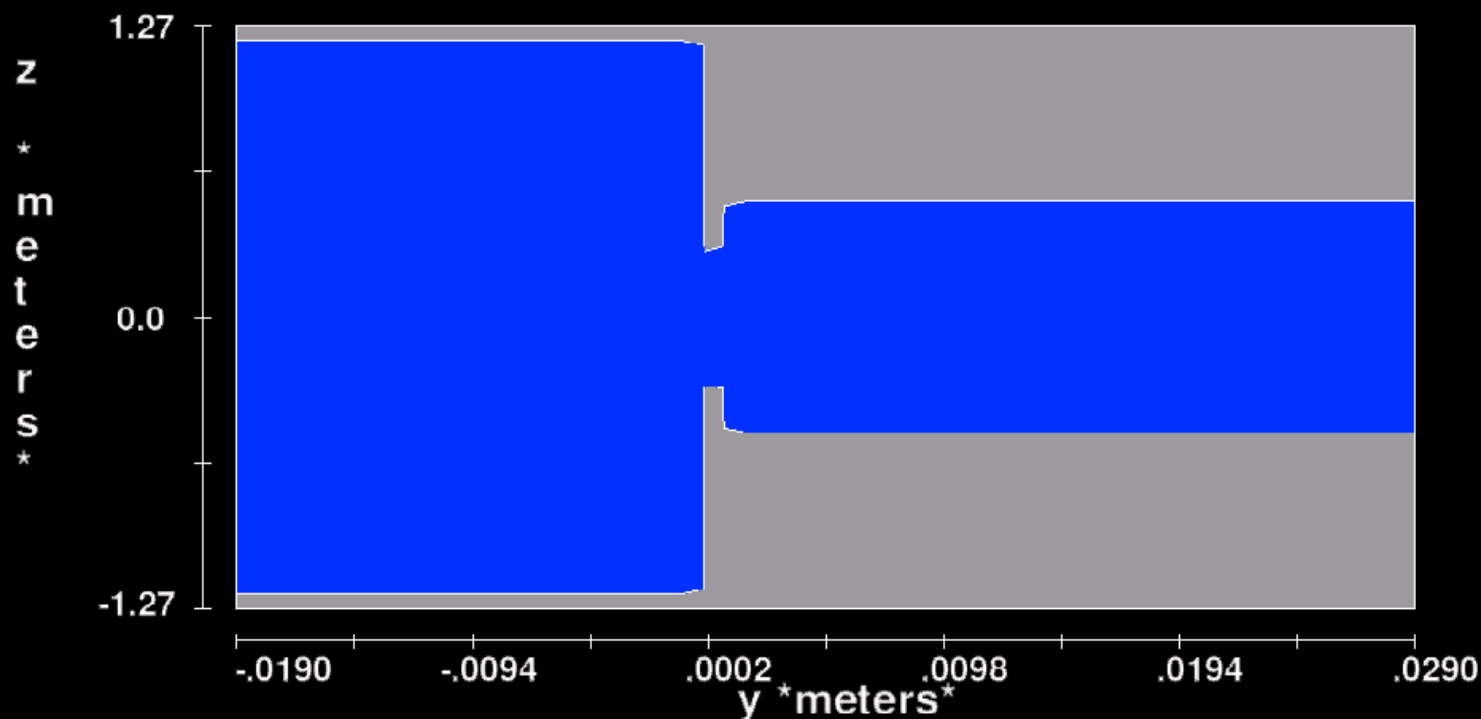


FLOW-3D t=0.0 x=4.318E-04 jy=3 to 60 kz=2 to 30
11:23:28 10/23/2006 apiy hydr3d: version 9.1.1 win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION

velocity magnitude (meters/s)

(z multiplied by 1.e+02)

0 129 259 388 518



FLOW-3D t=0.0 x=4.318E-04 jy=3 to 60 kz=2 to 30
11:23:28 10/23/2006 apiy hydr3d: version 9.1.1 win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION

temperature (degrees-k)

(z multiplied by 1.e+02)

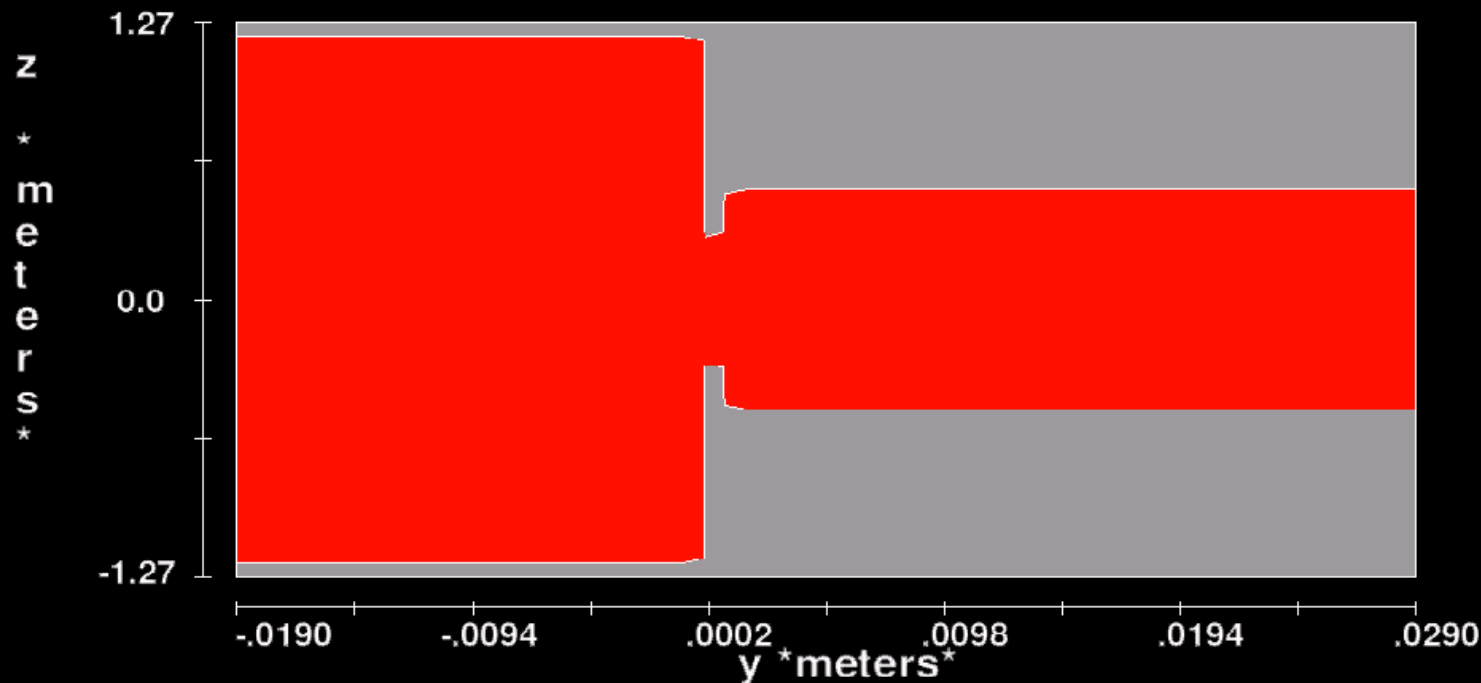
315.3850

315.3888

315.3925

315.3963

315.4000



FLOW-3D t=0.0 x=4.318E-04 jy=3 to 60 kz=2 to 30
11:23:28 10/23/2006 apiy hydr3d: version 9.1.1 win32-cvf 2006
SHOCK TUBE TEST - X DIRECTION