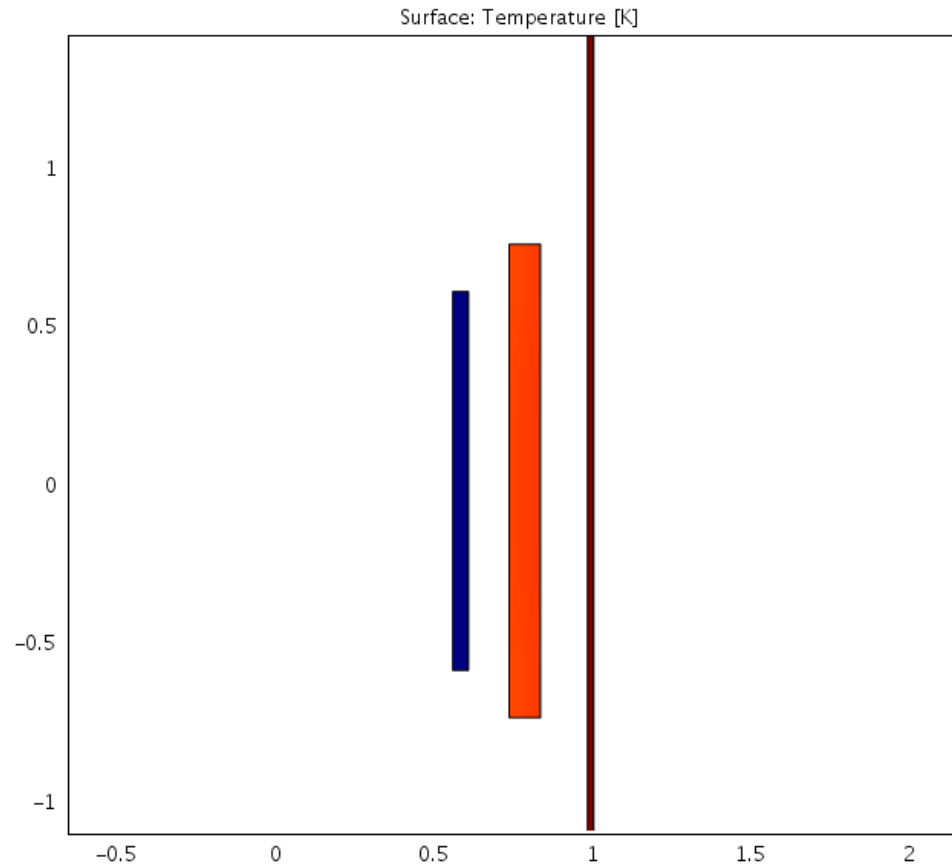


Overly simple LIGO Trap sketch:

average emissivity: 0.1  $\rightarrow$  dissipated power 170W (simulated)  
(190W measured on the short clean pump)

adjusted average emissivity to 0.4 to match 520 W (simulation)  
(measured power in LIGO trap 570 W)



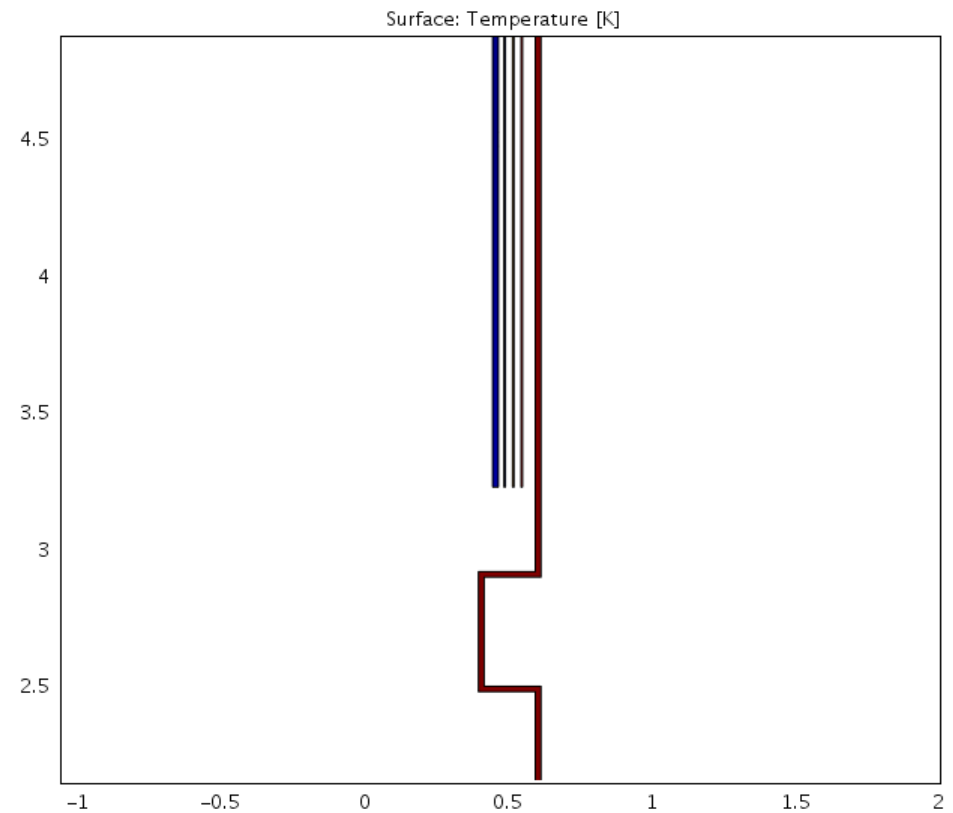
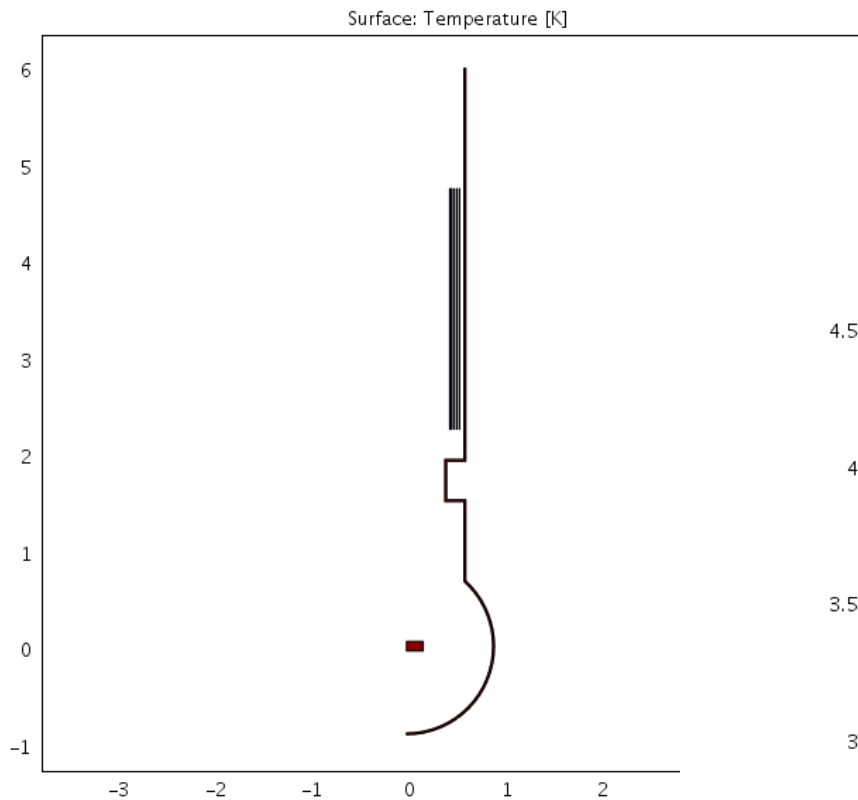
Trap:

20 mm thick Cu cylinder, 900 mm diam, 2500 mm length.

Thermal input from trap openings (perfect lateral insulation) = 270 W ( $\epsilon=0.4$ )

[130 W ( $\epsilon=0.1$ )]

3 x 5 mm thick Al concentric shields (approx 3 cm distance from trap and each shield)



3 passive shields: trap power = 490 W (e=0.4)

N2 vapor cooled shield (first shield only, T=120 K): trap diss. power = 300 W (e=0.4)

