

Subject: Temperature distribution with LARES 2 emissivity of cavity very high (29%)
Date: Thursday, February 15, 2018 at 3:30:17 AM Eastern Standard Time
From: Antonio Paolozzi
To: Reinhart, David Arnold
CC: Ignazio Ciufolini, Erricos C. Pavlis, Ludwig Grunwaldt
Attachments: case 16 NEWccr floating Tbody=140°C eps=0,29 dT=-4.5552°C.txt, Simulazioni 2018 02 12.xlsx, case 16 NEWccr floating Tbody=413.15K eps=0,29 dT=-4.5552K.txt, case 17 NEWccr floating Tbody=70°C eps=0,29 dT=-2.1816°C.txt, case 17 NEWccr floating Tbody=343.15K eps=0,29 dT=-2.1816K.txt

Dear Reinhart, Dear Dave,
attached two cases for the floating mount of the new CCR.
case 16) T body 140°C (limit case which cannot be, in fact because of the high emissivity satellite temperature lowers significantly
case 17) Tbody 70°C (more realistic case, although we expect temperature lower than that)

Each case has two files one reporting the temperature distribution in Celsius and the other in Kelvin

Attached also an excel file summarizing the main input and output of each case. Column O and P concern the contact of the cylindrical part of the CCR or the back faces with the plastic rings respectively. LPR= lower plastic ring, UPR upper plastic ring, WAL wall cavity, RRR retainer ring.

Case 1 was very good. Looking at the gradients Case 16 does not look good, but the more realistic case 17 shows a lower axial gradient of case 1. So I expect from your analysis that case 17 is ok too. Let us see your results.

Thank you and best regards

Antonio