

Subject: Final thermal analysis
Date: Saturday, September 15, 2018 at 8:22:27 AM Eastern Daylight Time
From: David Arnold
To: Antonio Paolozzi, Ignazio Ciufolini
CC: Mike Pearlman, ErricosUmbc Pavlis, Reinhart Neubert
Attachments: Arnold3-23-18.pdf, Case16,17.pdf, Reinhart2-15-18.pdf, Thermal_test_2018.pdf, Antonio3-23-18.pdf, Antonio2-15-18.pdf, Arnold9-15-18.pdf

Dear Antonio,

In reviewing my files, I see that I did a preliminary analysis of Cases 16 and 17 back in March, 2018 (Arnold3-23-18.pdf with attachment Case16,17.pdf). This analysis was done with dihedral angle offset 1.00 arcseconds for comparison with the calculations by Reinhart (Reinhart2-15-16.pdf, attachment Thermal_test_2018.pdf).

At that time, no decision had been made regarding the material for the satellite. I was planning on doing a final thermal study once the material had been chosen. A discussion of the effect of the emissivity of the material was given by Antonio (attached file Antonio3-23-18). The temperature matrices for Cases 16 and 17 were provided by Antonio in February, 2018 (Antonio2-15-18.pdf).

Apparently, these are the final thermal simulations. In order to compare the results with case #11, I have redone the analysis of Case 17 with a dihedral angle offset of 1.25 arcseconds (Arnold9-15-18.pdf). The comparison shows that the variations in the cross section due to thermal effects are about 4 times greater in Case 17 than in Case 11.

Regards,

David Arnold