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Comment

Interactive comment on “Space and ground segment performance of the FORMOSAT-3/COSMIC mission: four years in orbit” by C.-J. Fong et al.

Anonymous Referee #2

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General comments

The article provides a good and quite detailed overview of four years of the COSMIC mission, and could become a standard reference for this topic. Due to its overview nature, scientific advancements would not be expected. There is a certain amount of repetition which could be reduced (see also specific comments). The reader also has to remember a lot of acronyms. The emphasis on lessons learned and proposed improvements I consider valuable, and if still possible could even be reflected in the title of the paper.

Specific comments

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Section 3.1, page 604, line 5: “two-year experimental mission with a 5-year spacecraft design life”. This is confusing. What exactly is meant? Is it 2 + 5 years, or are the 2 years included in the 5? In that case, what about the other 3?

Section 3.1, page 604, line 20: second occurrence of the SADM failure and the reduced orbit altitude of FM3. This is the best place to described this event.

Section 3.1, page 605, line 17-18: I am left in doubt what really happened. Did the computer autonomously perform a master reset as a result of the SAA? Was it a coincidence, or was the reset triggered from the ground?

Section 3.2, page 606, line 7: “occultating precision orbit determination (POD) antenna”: does the antenna really have both purposes: occultation measurement and support of POD? Are the POD1 and POD2 antennas not used for occultation processing?

Section 4.1, page 609, line 13-15: third explanation of the lower orbit of FM3, which probably does not belong in the section about ground systems. If this affected the operations scheduling, it would be worth mentioning that.

Editorial

Section 3.1, p.605, line 4: “GOX duty cycle on” and line 7: “reduced duty-cycle GOX on operations”. Both phrases are a bit awkward to read.

p.605, bottom line and ff.. Instead of GOX (stand-alone), better write GOX instruments.

Section 3.2, page 606, line 7: occulting instead of occultating

Section 3.2, page 606, line 11 and ff.: this sentence is not understood. How does the SNR affect the temperature? If the temperature is below the red high limit, this should be good, but it reduces the availability. . .

Section 4.1, page 609, line 23: the term ‘Phoenix’ was not introduced.

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Section 6 (several places): I am not familiar with the word 'trades' as it is being used here ('trades and improvements'). Please check if this is correct usage. I may be wrong, but I could also not find any other examples of this usage.

Interactive comment on Atmos. Meas. Tech. Discuss., 4, 599, 2011.

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