Commentary on "XMM Mission Planning"

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I find myself in agreement with the review: this paper describes what seems to be a mostly manual scheduling process, and does not get into enough detail to understand the obstacles towards further automation. The reader is left with more questions than answers. For example, the first sentence of the second paragraph of the introduction says, that there are significant differences between the spacecraft that result in differences in operational considerations that must be addressed by the planning system. What are those differences? And how do they impact the planning process?

Section 4 purports to answer some of these questions, but does not address the differences between XMM and ISO. I am also left with many questions about the underlying rationale for some of the constraints. Why must the roll angle be less than 20 degrees? What is the eclipse season? How often must routine maintenance be done?
Why is there no on-board command buffer or on-board data storage?

Some of the data in Table 1 looks like it might contain typographical errors. Is the angular constraint on the reflection grating spectrometer relative to the moon limb really one minute of arc? And there is no unit on the constraint for the photo imaging camera relative to the Earth limb.

One could envision an "ideal" planning system that would schedule the spacecraft based on on-line user requests with no manual intervention whatsoever. Is this possible? If not, how close could one potentially get, and what are the fundamental factors that would prevent further progress? What do you see as the major problems that need to be solved in order to make progress in that direction? (Do you even see that scenario as an ideal situation? If not, why not?).