

Following comments from Referees, please note the following important items

Review comments on paper ID 18 by Maartens et al.,

Referee I

The paper is generally well written with appropriate description of the method and referencing. However the font on some figures is too small and unreadable.

I noticed that in the abstract, the authors were proceeding with the implementation of the automated scheduler. It is possible that this has already been done and if so then the abstract can be updated. [The "implementation" is over enthusiasm of the authors. The scheduler is being designed and developed for implementation during this project. The working in the abstract has been corrected to reflect this.](#)

Below are some comments that the authors should take into account

- Page 3, the authors should first define ToO before using it as acronym

[Corrected, thank you](#)

- In equation 1, all variables should be defined

[Definitions added](#)

- Figure 2, the legend labels' font should be increased

[Corrected, thank you](#)

- In equation 9, a suggestion would be to consider using some variables for different wording.

However this is not critical and it is left to the authors to decide.

[Improved wording and definitions giving a cleaner equation](#)

- Figure 4, the font is too small. Please revise the figure

[Corrected, thank you](#)

- Equation 10, all variables should be defined

[Definitions added](#)

- Figure 5, all the sub-plots are too small including the fonts.

It is recommended that the paper be accepted subject to minor corrections.

[Corrected, thank you](#)

Referee II

Automated scheduling for a robotic astronomical telescope

The proceedings gives an overview of techniques for automatic scheduling of robotic telescopes. The proceedings is in general well written and gives a nice overview. However, the proceedings does not address what it says it does in the abstract. The abstract refers specifically to the APT telescope, but then makes no mention of this telescope. The paper is also ambiguous as to whether the methods that are presented are only discussed as general concepts or if they are specifically applied to (or are planned to be applied to) the APT. I recommend that before the paper is accepted, that the APT telescope should be briefly discussed in the proceedings, and that the paper is re-edited to make it clear if the methods discussed are already implemented or not, and/or if they are planned to be implemented or not.

#####

[The paper presents the general algorithm, with the APT being a testbed for the prototype implementation. The wording has been corrected to better reflect this as suggested.](#)

Specific comments:

Last paragraph of section 1, top of page 2:

"This leads us to consider the problem as a 3 stage approach. Not all stages may be

implemented, but any/all stages, when implemented, should incorporate the criteria for good scheduling."

It is unclear from this sentence, what exactly the 3 stages are that the authors are referring to.

#####

Corrected, to better word the origin of the 3 stage design.

Section 2.2 1st sentence of 2nd paragraph

"Setting up a pool of observations available for execution based on subset from the planning section allows focusing on efficient use of telescope time and instrumentation setup."

->

Setting up a ... based on A subset from the planning section allows FOR THE efficient use ... setup.

#####

Corrected, thank you

page 3, Section 3, 1st sentence:

"The current scheduler addresses..."

As discussed in the outline, it isn't clear if this specifically means the APT scheduler, as I assume it does. This should be edited for clarity.

#####

Corrected, thank you

page 3, equation (1):

"X" and "x" is not defined, and not clear if this specifically applies to the APT.

#####

Corrected, thank you

page 3, paragraph after equation (1)

"Observatory time is usually shared by multiple groups...."

Recommend re-phrasing the beginning of this paragraph to make it clear that the fairness parameter will be discussed, like is done for the efficiency and veto parameters.

#####

Wording improved to clarify that fairness parameter is discussed.

page 3, equation (2)

There is no "e(n)" in equation (1). I assume this should be " $\epsilon_x(n) = \beta_1 \dots$ "?

#####

page 3, equation (3)

Assume this should be " $v_x(n) = \dots$ " and "where EACH TERM describes..."

#####

Equations corrected

page 3: the section on the efficiency and veto limits.

The since section 3.1 and 3.2 go on to describe the efficiency and veto constraints, the authors may consider moving these descriptions to be the first paragraph in each of the subsequent sections.

#####

The first section serves as a summary of the detail described in section 3.1 and 3.2. The wording of the first section has been updated to better represent the flow of the following section for easier reading in favour of the suggested merging

page 3, section 3.1, first line:

"Example astronomical constraints, that can be considered as "hard"..."

->

Astronomical constraints that can be considered as "hard"....

#####

Corrected, thank you

page 3, first line after equation (4)

"Lunar phase and elevation not only influence sky brightness calculations but also relates as a hard limit to observational..."

->

Lunar phase and elevation not only influence sky brightness calculations but also DETERMINE a hard limit to observational...

#####

Corrected, thank you

equation (8):

a,b,c are not defined.

#####

Definition added

page 5, Fig 1:

The airmass models plotted aren't explained. A reference to the different models can be made in the caption.

#####

Corrected, thank you

page 5, line after equation (9)

where h is the current elevation OF the target;

#####

Corrected, thank you

page 5, equation (10)

The equation should be part of the previous sentence.

a,b,c not defined,

and the definition of $t_r = \Delta t_{\text{target}} / \Delta t_{\text{night}}$ can be better explained.

#####

Definition added

page 5, figure 4:

The labels are too small to read

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Corrected, thank you

page 6, figure 5

The labels are too small to read.

#####

Corrected, thank you

page 6:

The last section on the merit section is unclear and should be re-written for clarity.

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Wording improved to clarify merit discussion.

page 6, reference 6:

Liverpool should start with a capital "L"

#####

Corrected, thank you