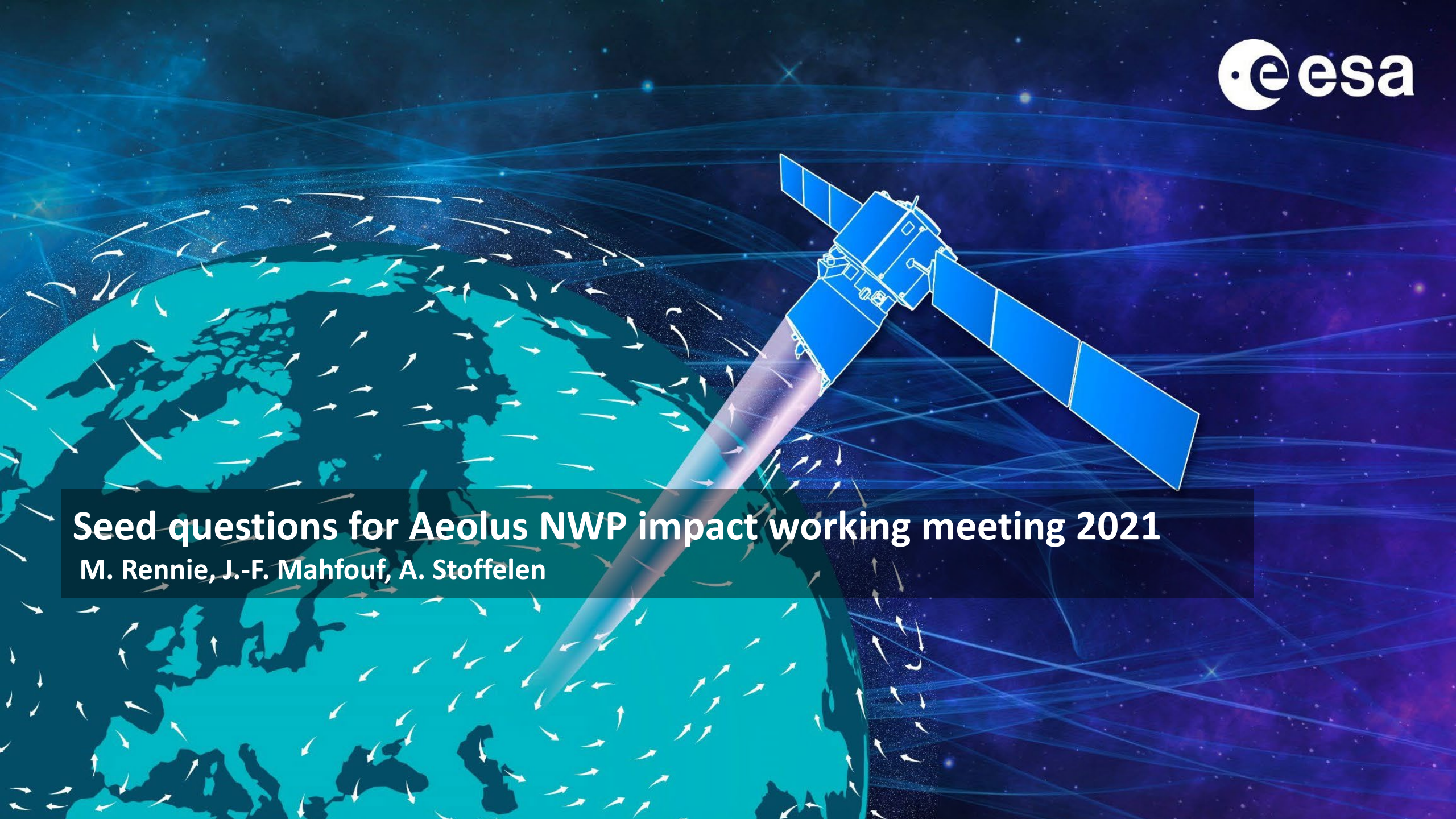

Seed questions for Aeolus NWP impact working meeting 2021

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Seed questions: Aeolus NWP impact and expectations for Aeolus-2

Aeolus NWP impact assessment:

- What are the conclusions in terms of NWP impact regarding the evolution of L2B wind quality throughout the mission lifetime?
- Can we provide an upper limit for random and systematic errors above which L2B winds are virtually useless in terms of NWP impact? *Given the continuing decrease in atmospheric path signal and when to stop operationally assimilating it*
- What is your experience on the remaining biases after M1 temperature bias correction?
- How different are the NWP impacts between near-real time and reprocessed datasets?
- What is the relative importance of Mie vs. Rayleigh winds on NWP impacts?
- Have Aeolus winds helped to make a better usage of other observing systems (e.g. AMVs)?
- For which extreme events (case studies) have L2B winds been the most useful in terms of forecast skill?

DWL/Aeolus-2 preparations and expectations:

- What have been the most important difficulties that you have experienced regarding the use of L2B winds in a NWP context, that could be improved in a follow-on?
- With Aeolus experience, how complementary is DWL compared to the rest of the global observing system e.g. GNSS-RO in tropics, IR sounders? *Justification for Aeolus-2/DWL*
- How could the impact of L2B winds in regional/mesoscale models be enhanced for Aeolus-2/DWL?
- Any idea what ~2.5 m/s random errors (aimed for with Aeolus, but not achieved) would additionally bring for NWP, other observations or process studies?
- Which updates to the Aeolus design would be important from your point of view to improve NWP impact and scientific exploitation? e.g. improving the winds, improved aerosol products given the trend for Earth System models
- Do we need any community coordination on the presentation of Aeolus NWP impact at Aeolus-2/DWL meetings in 2022? E.g. Assessing the 2nd reprocessed dataset via OSEs/FSOI for a specific (relatively high signal) period?
- Any further aspects of Aeolus that should be further demonstrated to convince EUMETSAT member states and ESA delegates? Greater risks to the instrument can be taken towards end-of-life