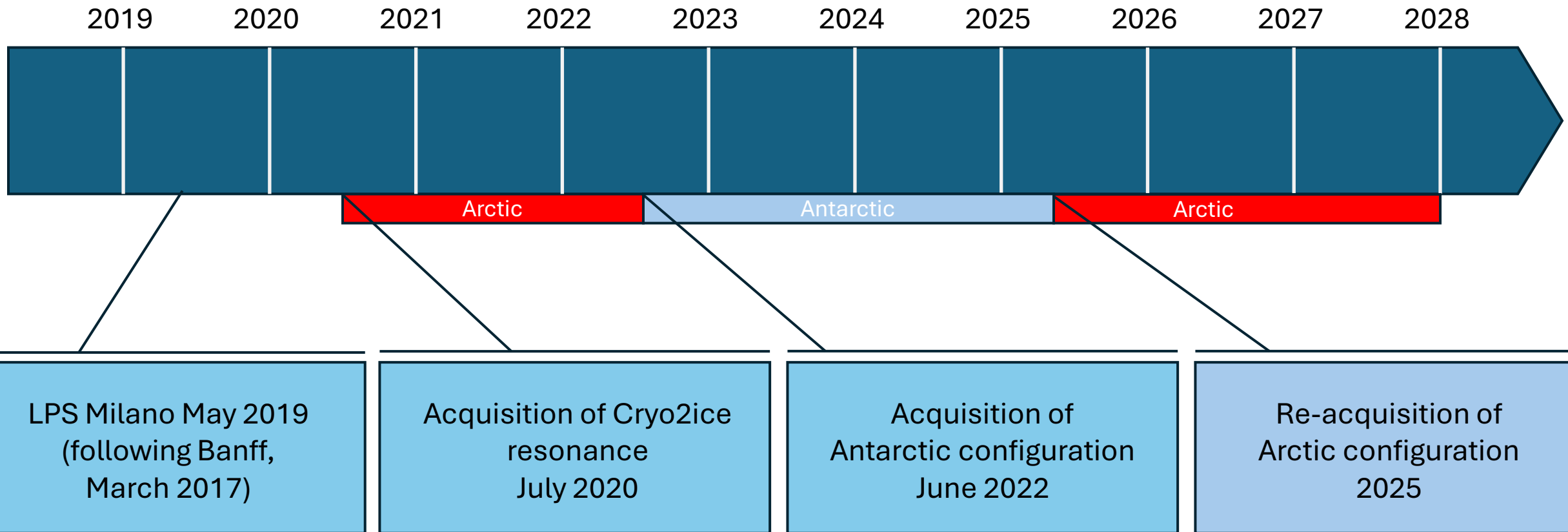




Evolution of the Cryo2ice tandem and performance of coincident tracks

J. Sánchez, J. Herrera, T. Parrinello, J. Lerch, and A. Fernandez

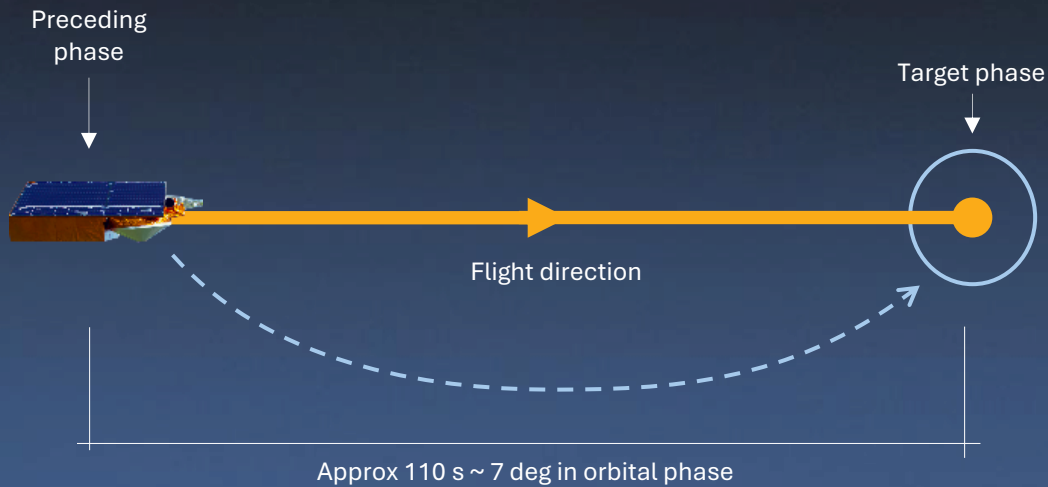
Cryo2ice chronology



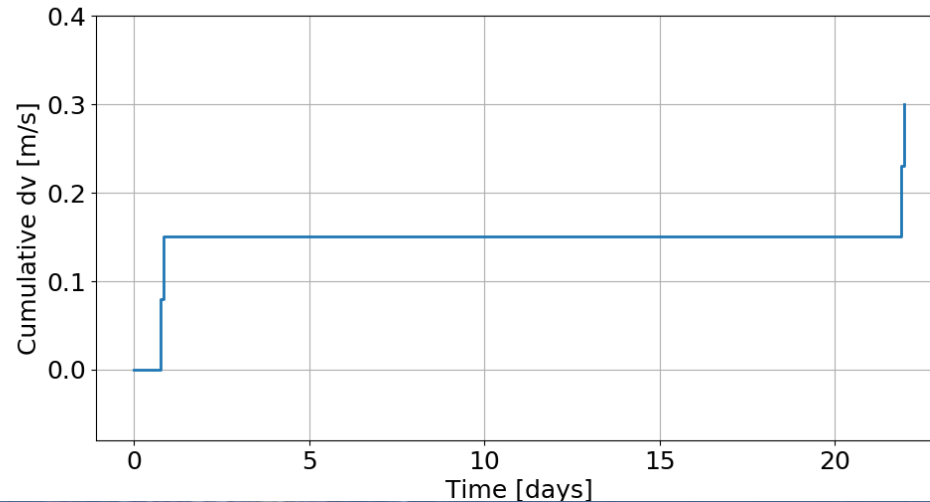
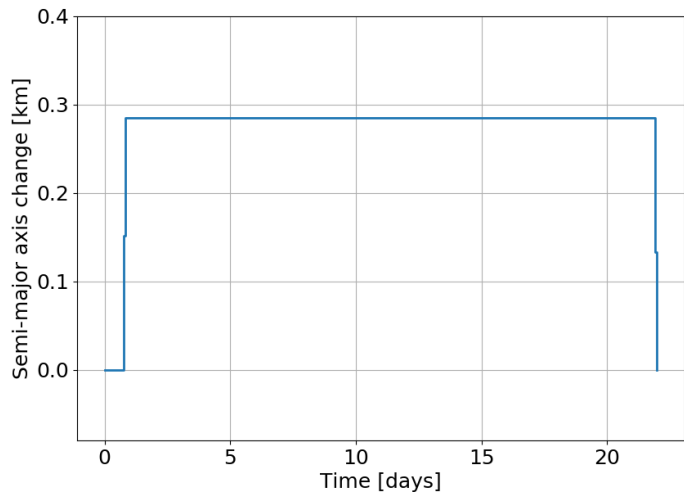
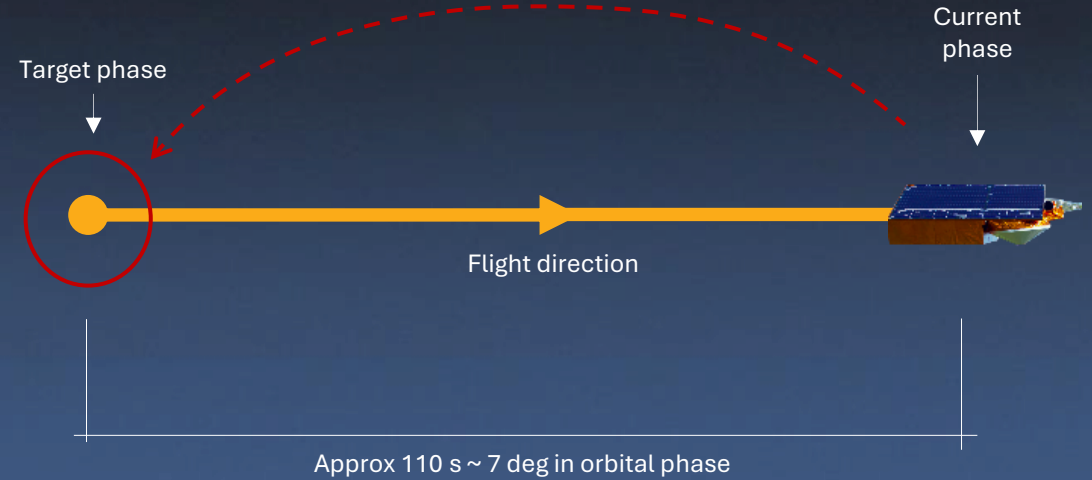
Cryo2ice Symposium 2024



(2022) Acquisition of the Antarctic configuration

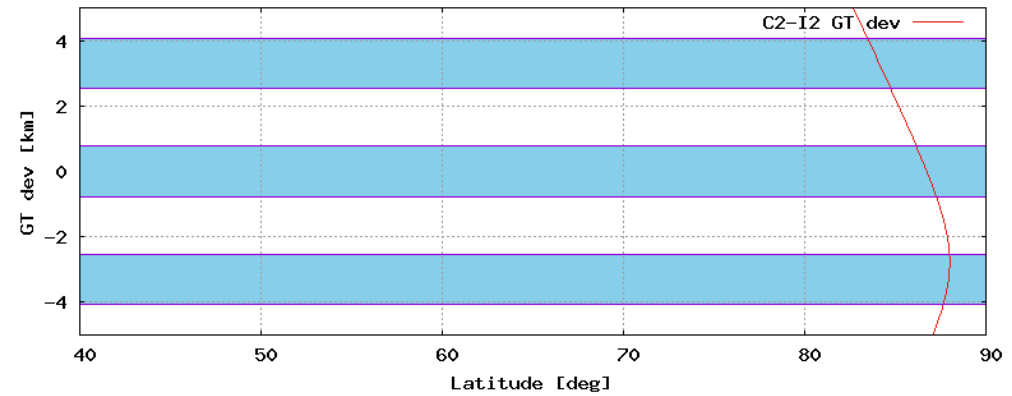
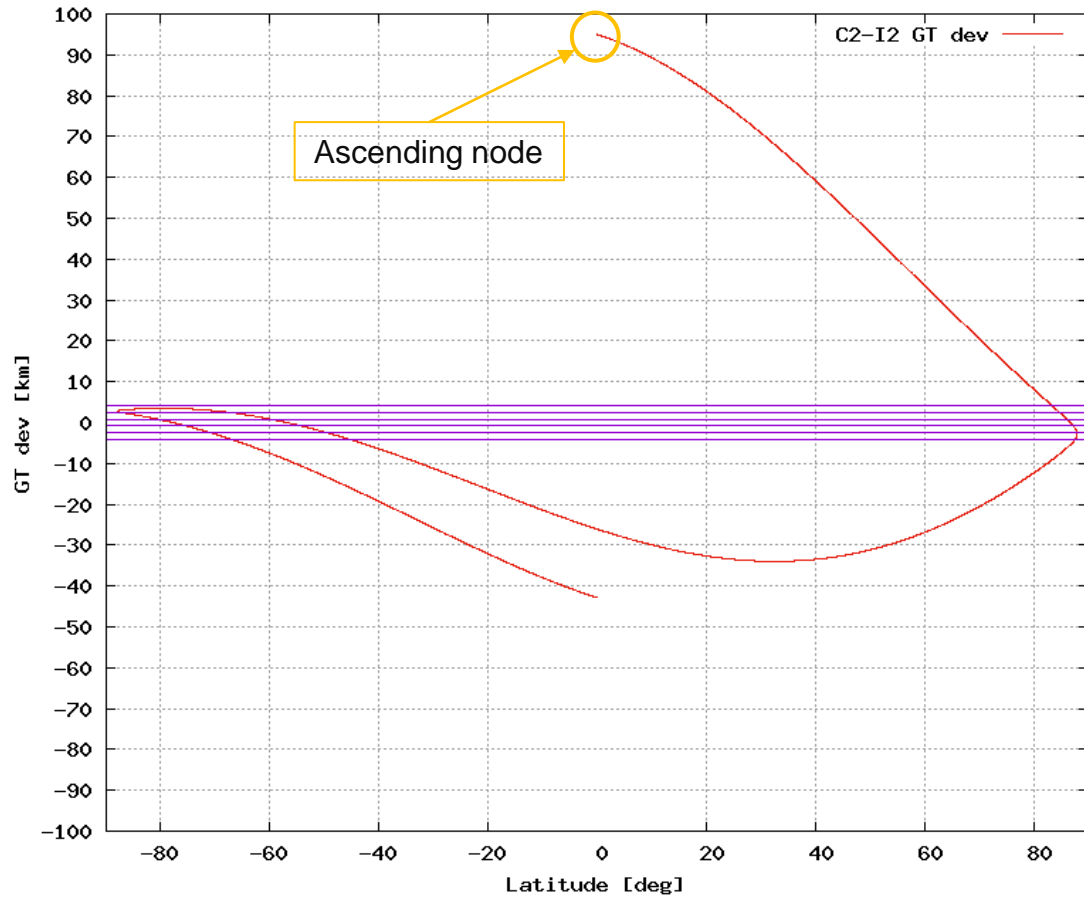


Acquiring the Arctic configuration

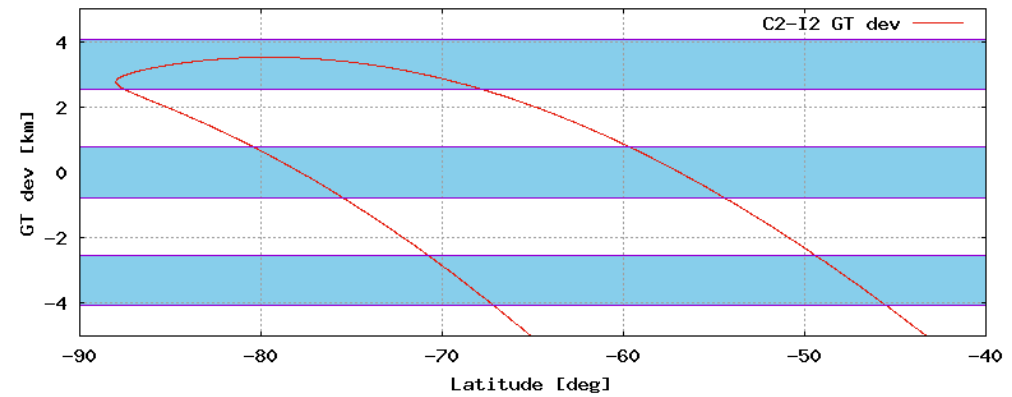


Duration:	3 weeks
SMA raise:	0.285 km
Delta-V:	0.301 m/s
Propellant:	0.331 kg

Cryo2ice Symposium 2024

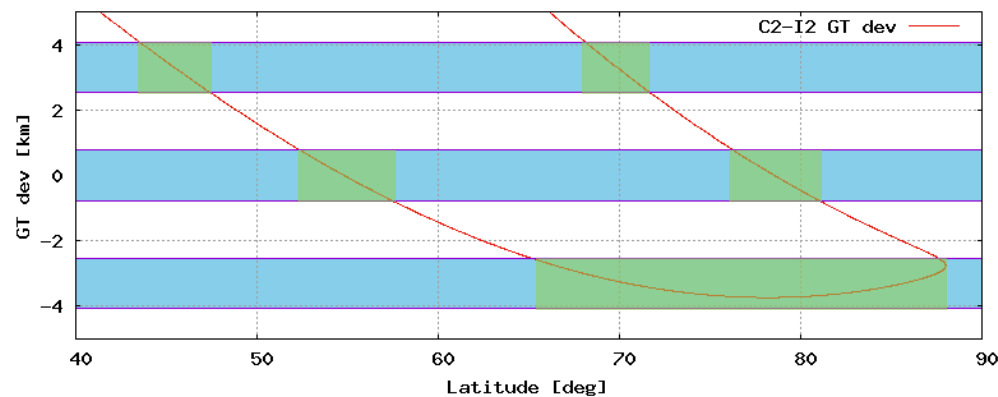
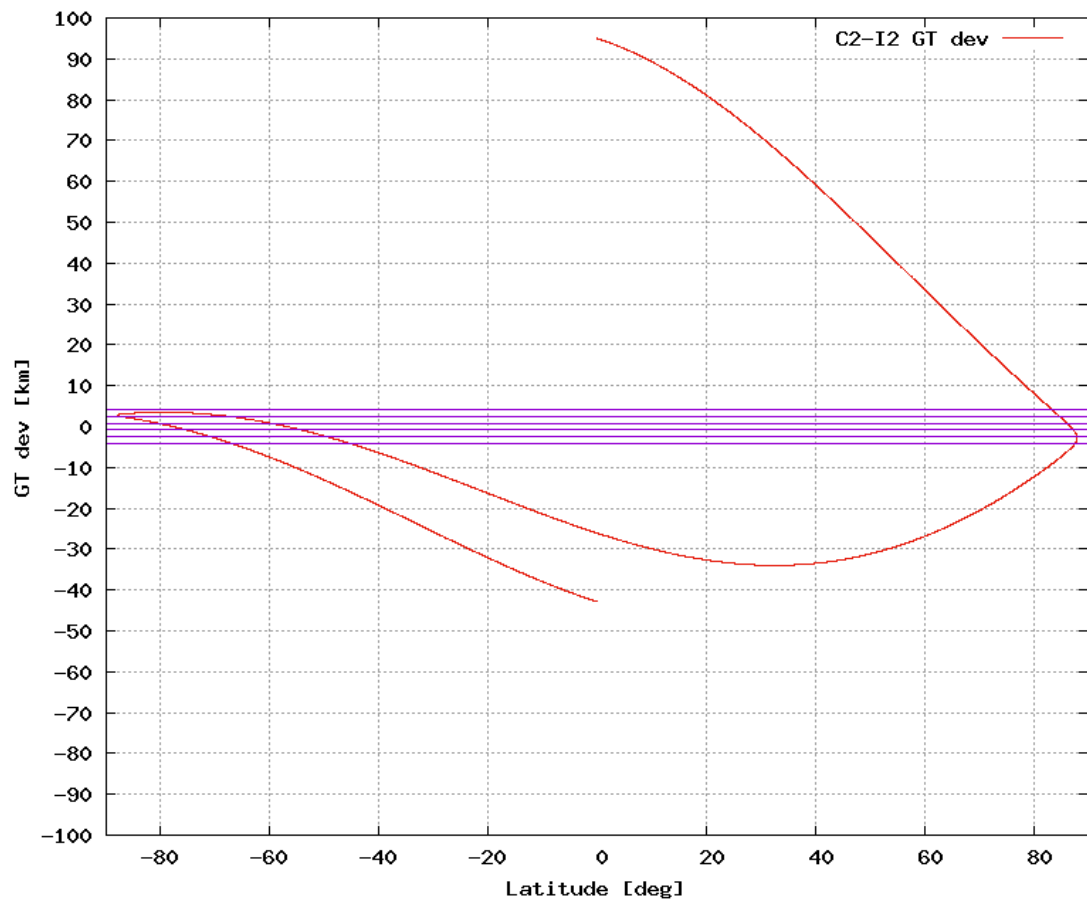


Arctic

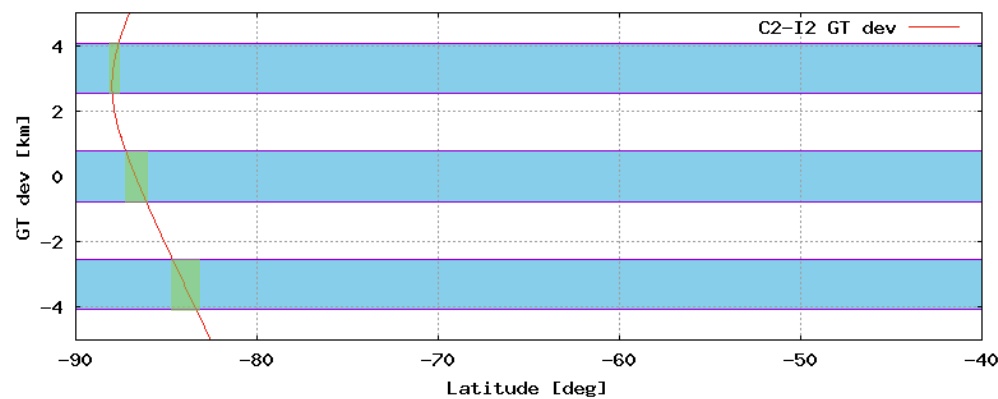


Antarctic

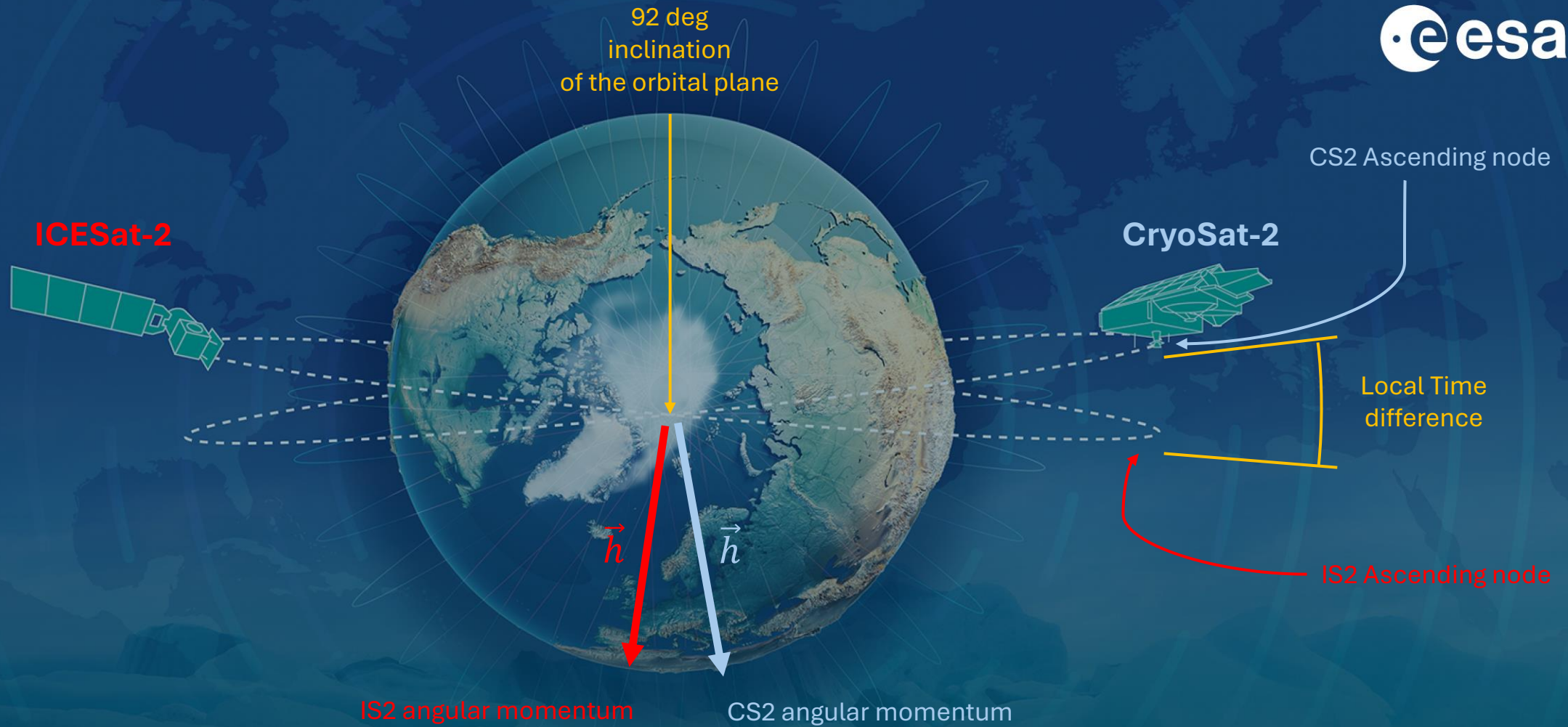
Cryo2ice Symposium 2024



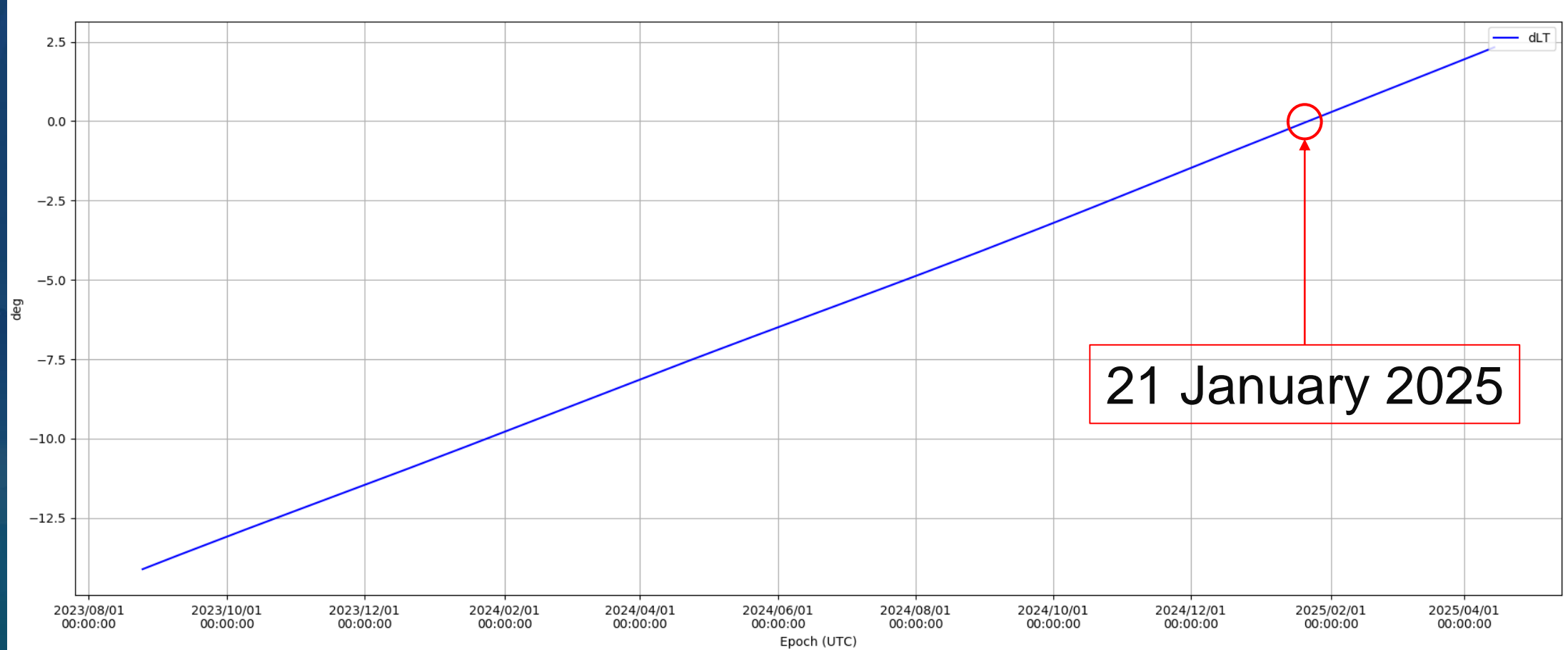
Arctic



Antarctic

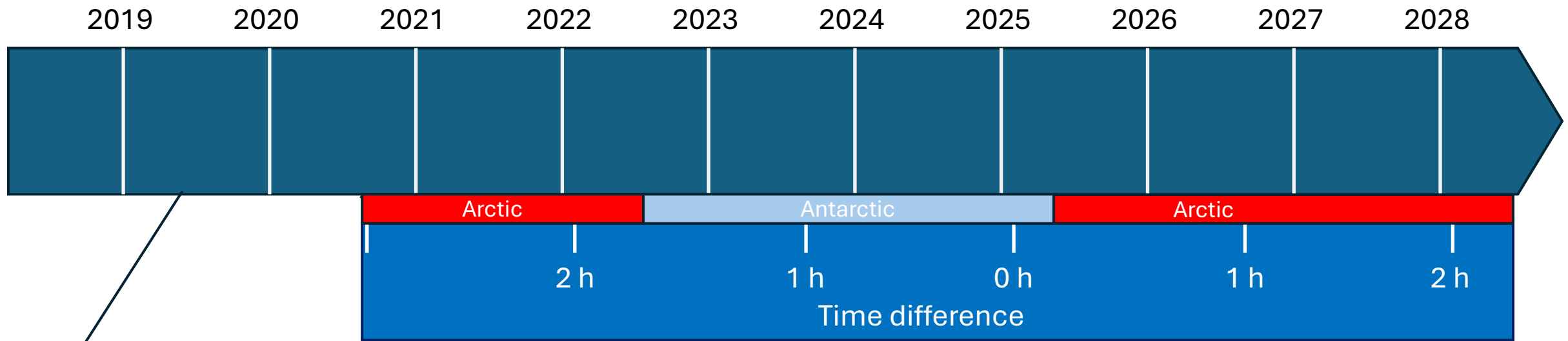


- The time difference between the Cryo2ice acquisitions is directly linked to the Local Time difference between the orbital planes
- When the cryo2ice symposium was being planned, the orbital plane separation was slightly above 10 deg
- The ICESat-2 orbital plan drifts towards that of CryoSat-2
- It advances at a rate of 0.027 deg/day... Approximately, 1 min every 9 days.



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- It advances at a rate of 0.027 deg/day... Approximately, 1 min every 9 days.

Cryo2ice chronology (with time difference)



LPS Milano May 2019
(following Banff,
March 2017)

Acquisition of Cryo2ice
resonance
July 2020

Acquisition of
Antarctic configuration
June 2022

Re-acquisition of
Arctic configuration
2025

Conclusions

- During the upcoming months Cryo2ice will deliver high-quality observations, with very low time difference between acquisitions.
- This is due to the natural drift of the CryoSat-2 and ICESat-2 orbital planes with respect to one another.
- Alignment of the orbital planes predicted on 21 January 2025.
- Acquisition of the Arctic configuration planned for 2025.
- The current baseline is a three-week long manoeuvre campaign, with a cost of approximately 0.331 kg.

