



The role of SLR and SSA observation campaign within the ELSA-d Mission

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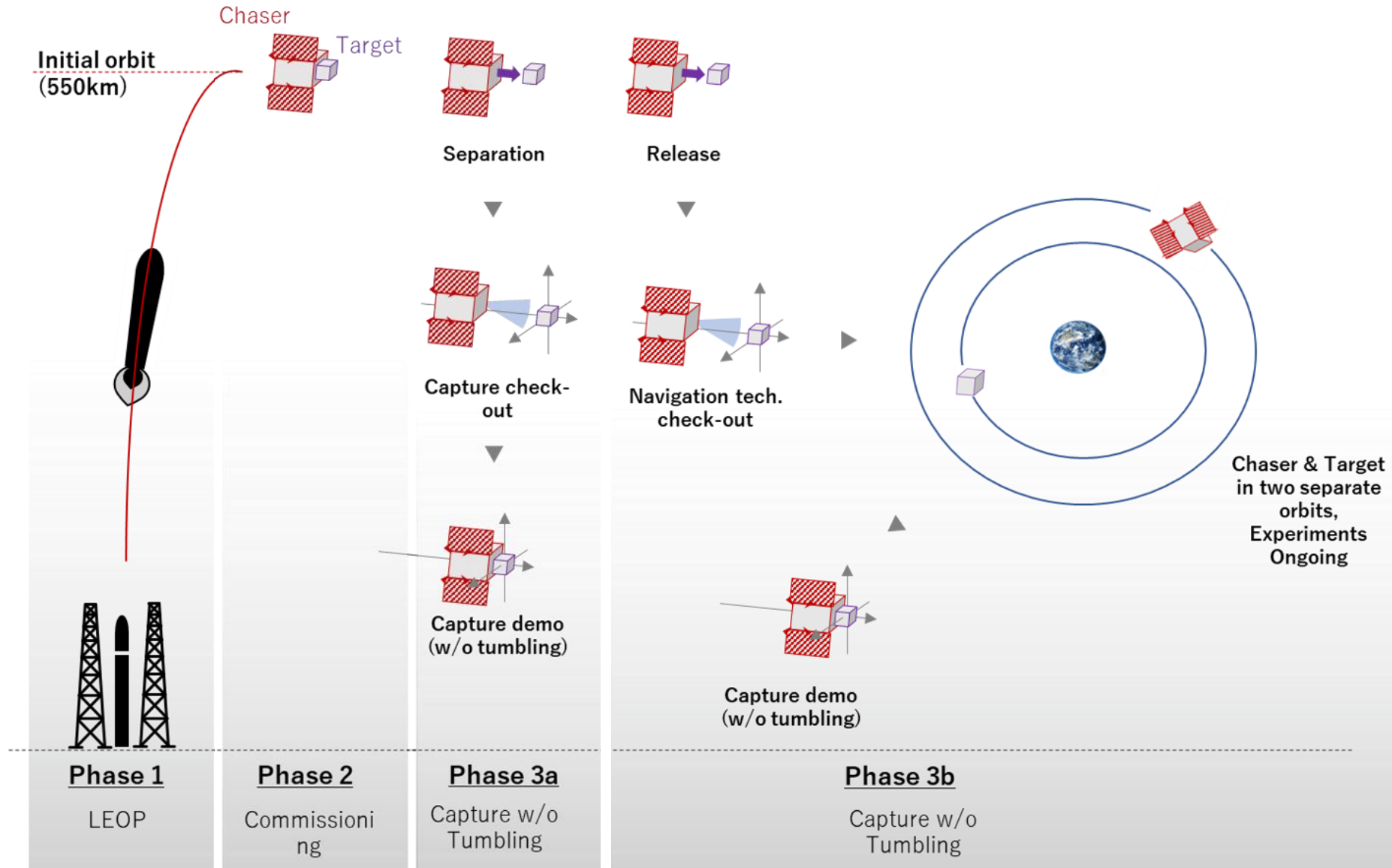
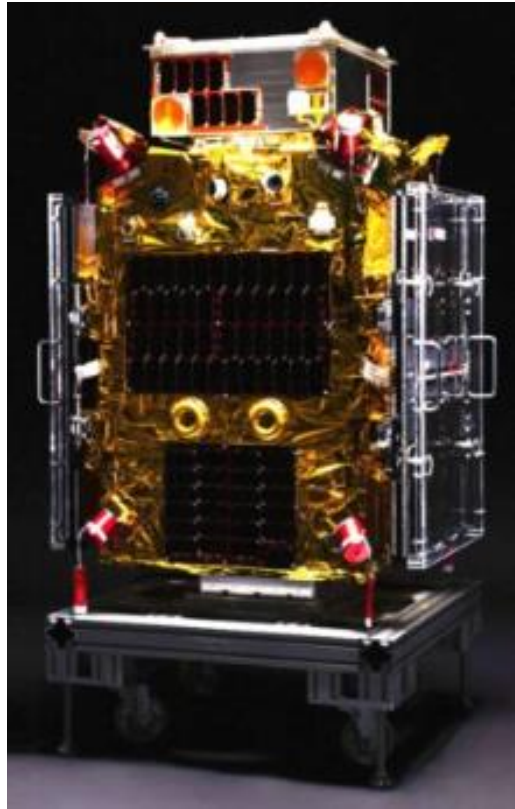


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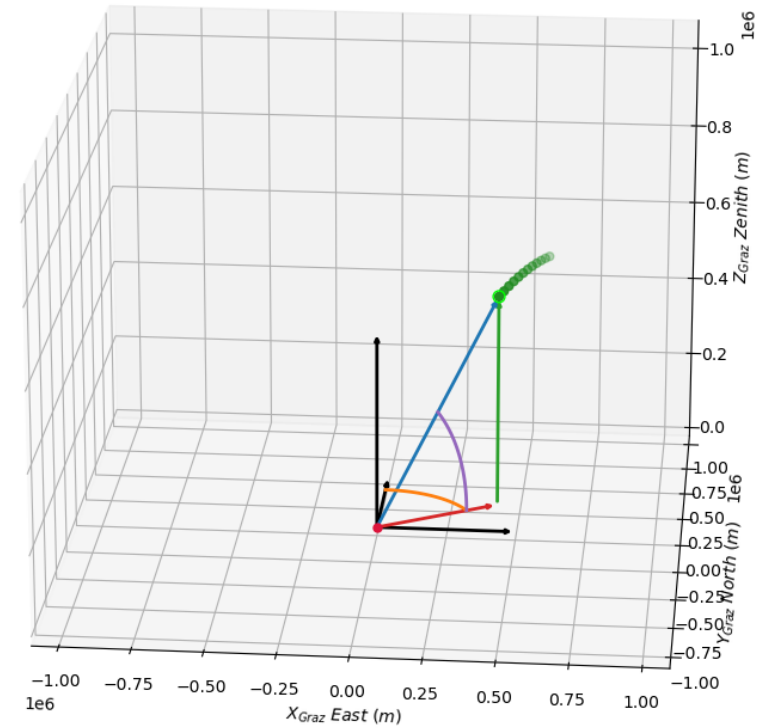
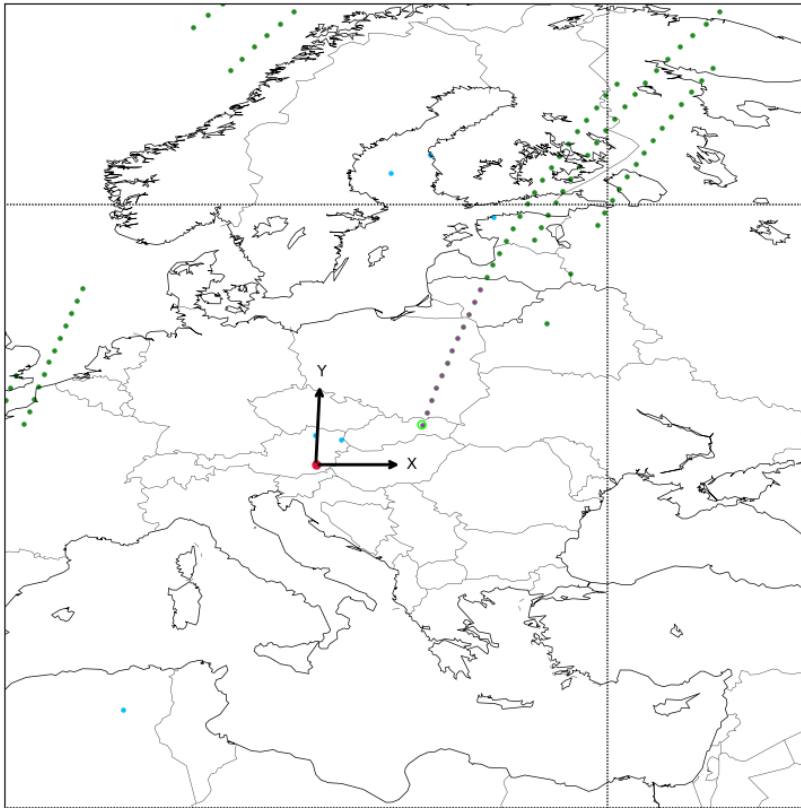
Outline of the ELSA-d Mission



GPS Calibration



Graz ILRS Station passes in Summer 2021

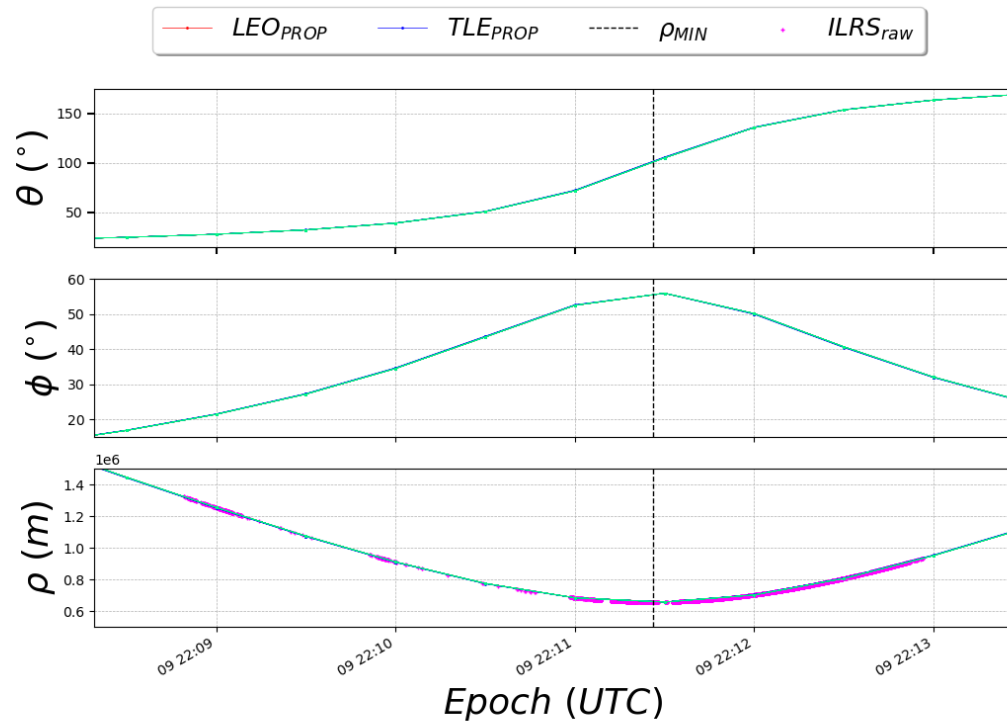


GPS Calibration

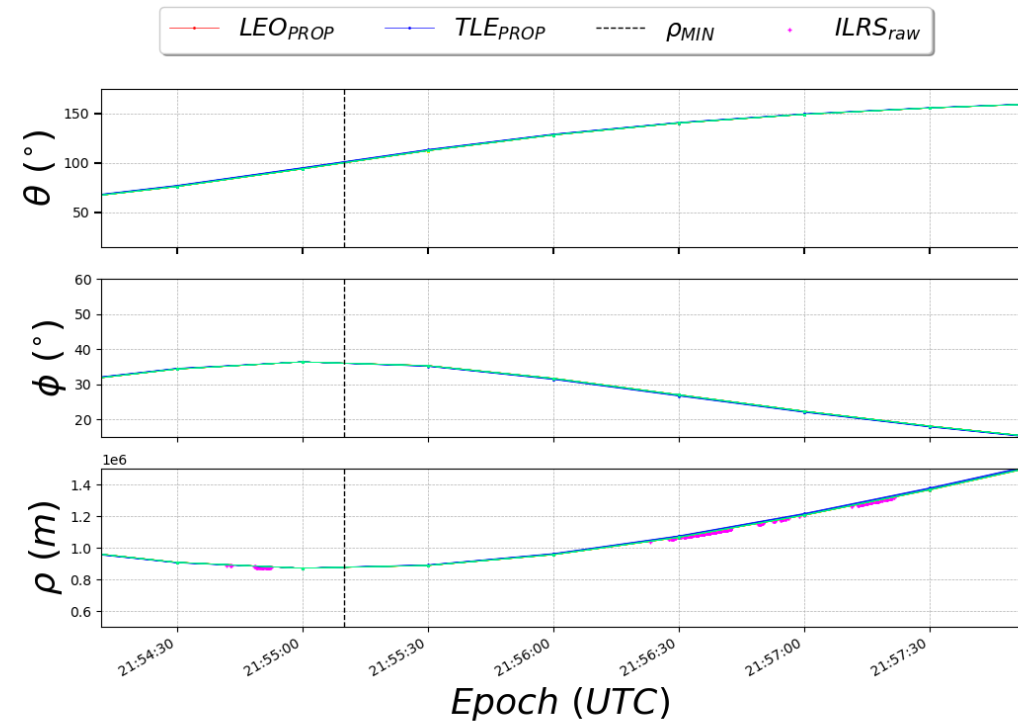


Graz ILRS Station passes in Summer 2021

- 1st Pass – 9 Jul 2021



- 2nd Pass – 12 Jul 2021

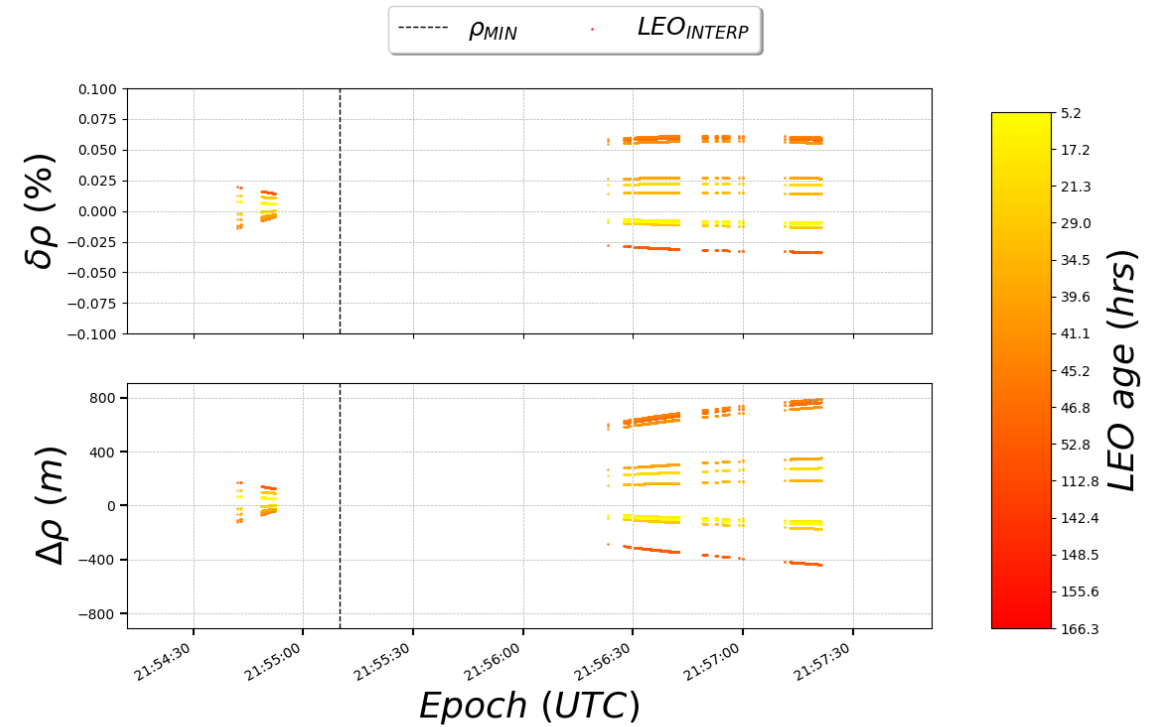
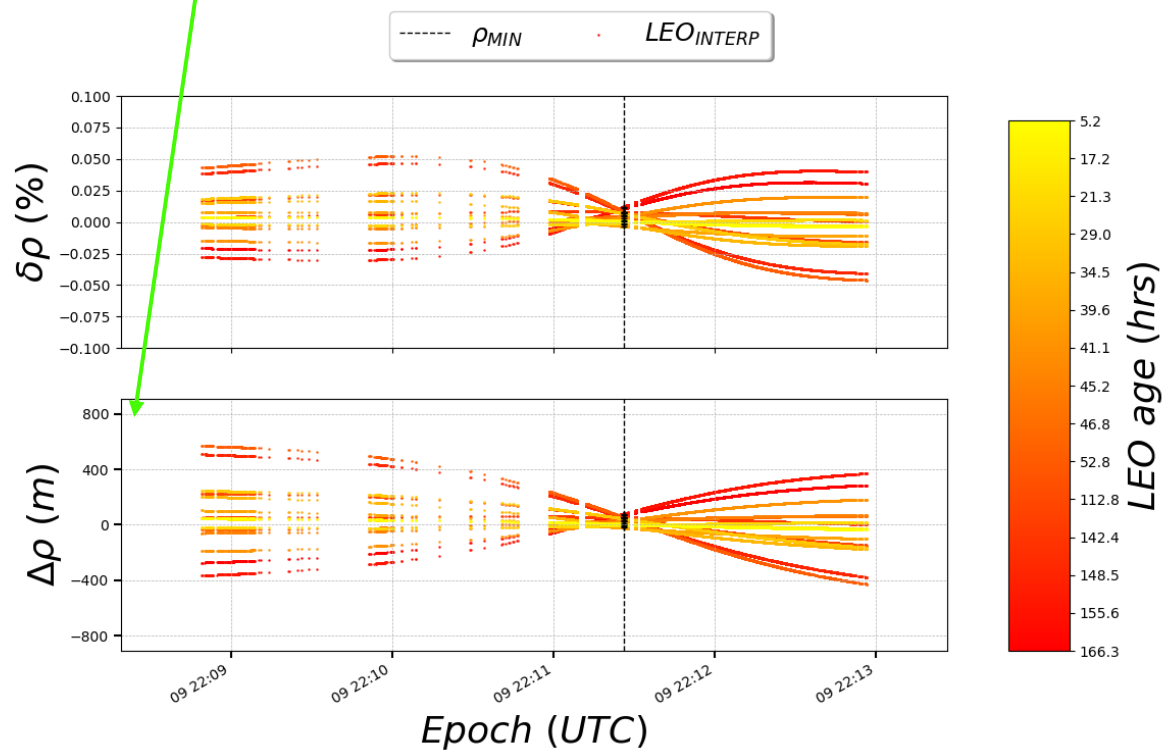


GPS Calibration



Leo Labs ephemeris accuracy with respect to ILRS data

Leo Labs ephemerides accurate to a few hundred metres w.r.t. SLR

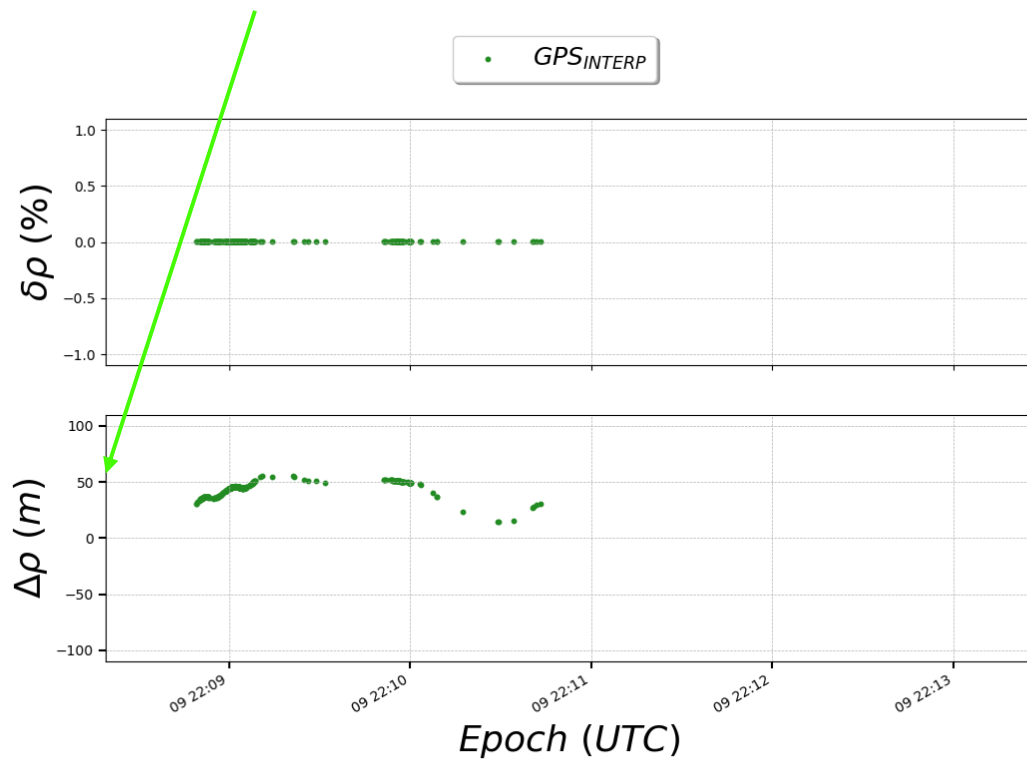




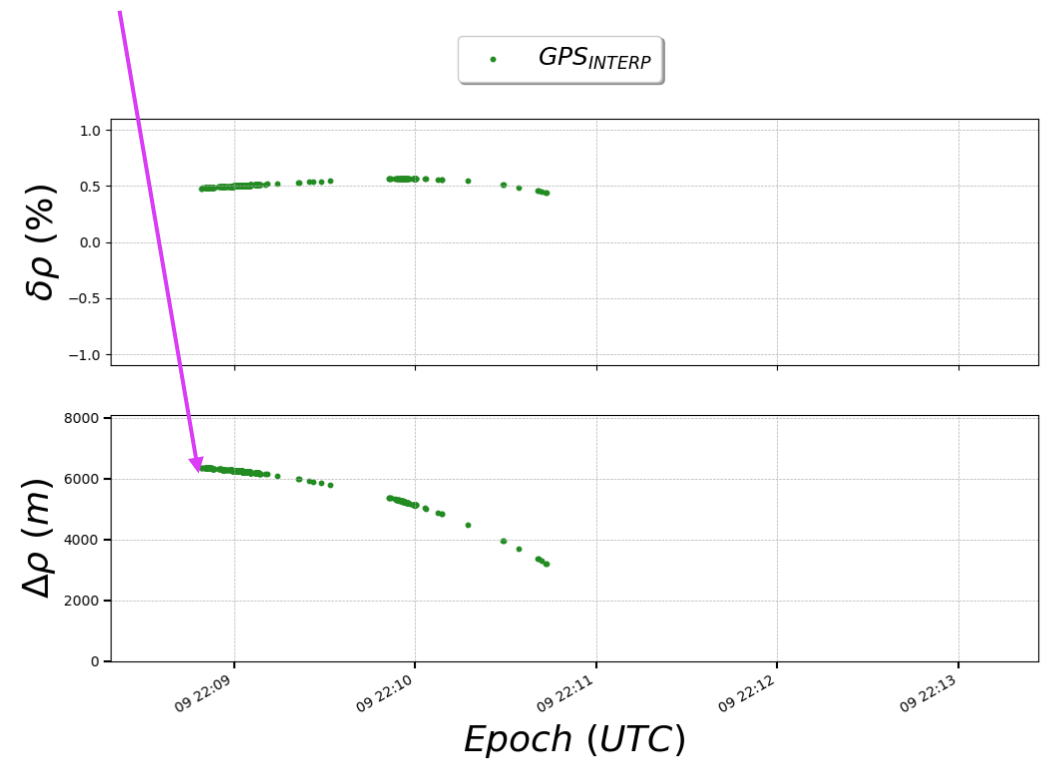
GPS Calibration

GPS errors with respect to ILRS to estimate bias

A few tens of metres when accounting for GPS clock bias



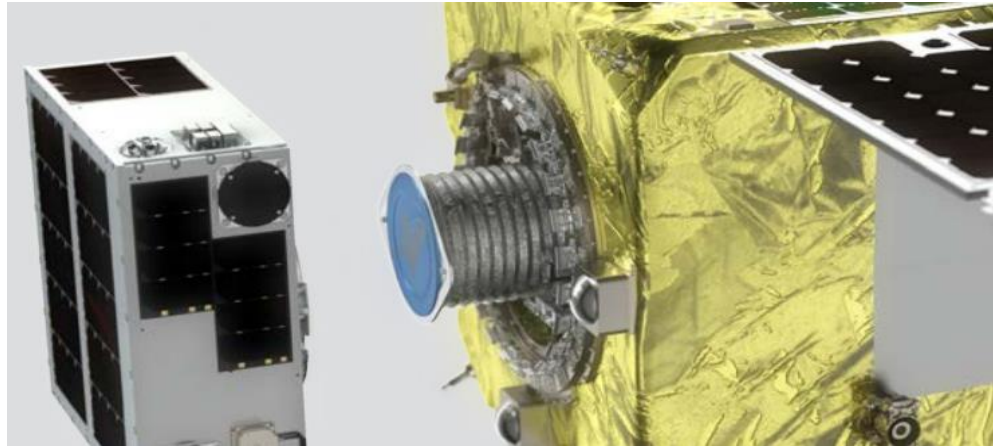
Several kilometres of error w/o considering the GPS clock bias



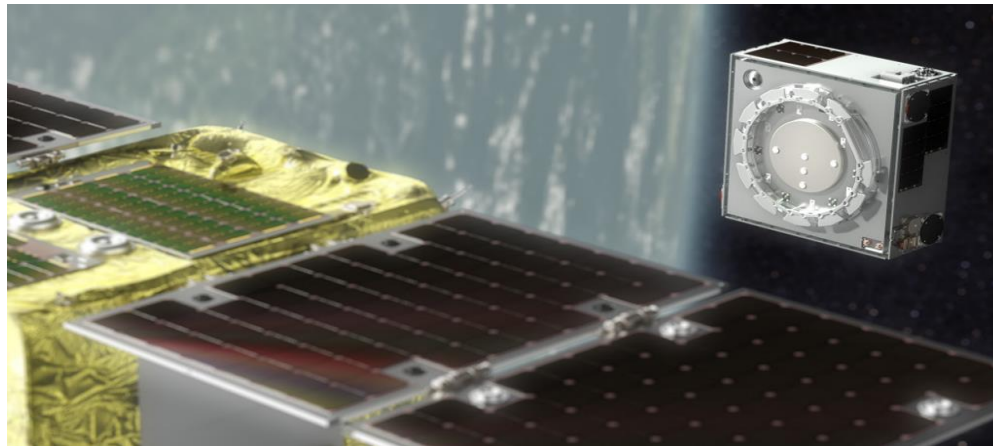
Demo 3b



➤ Demo 3a



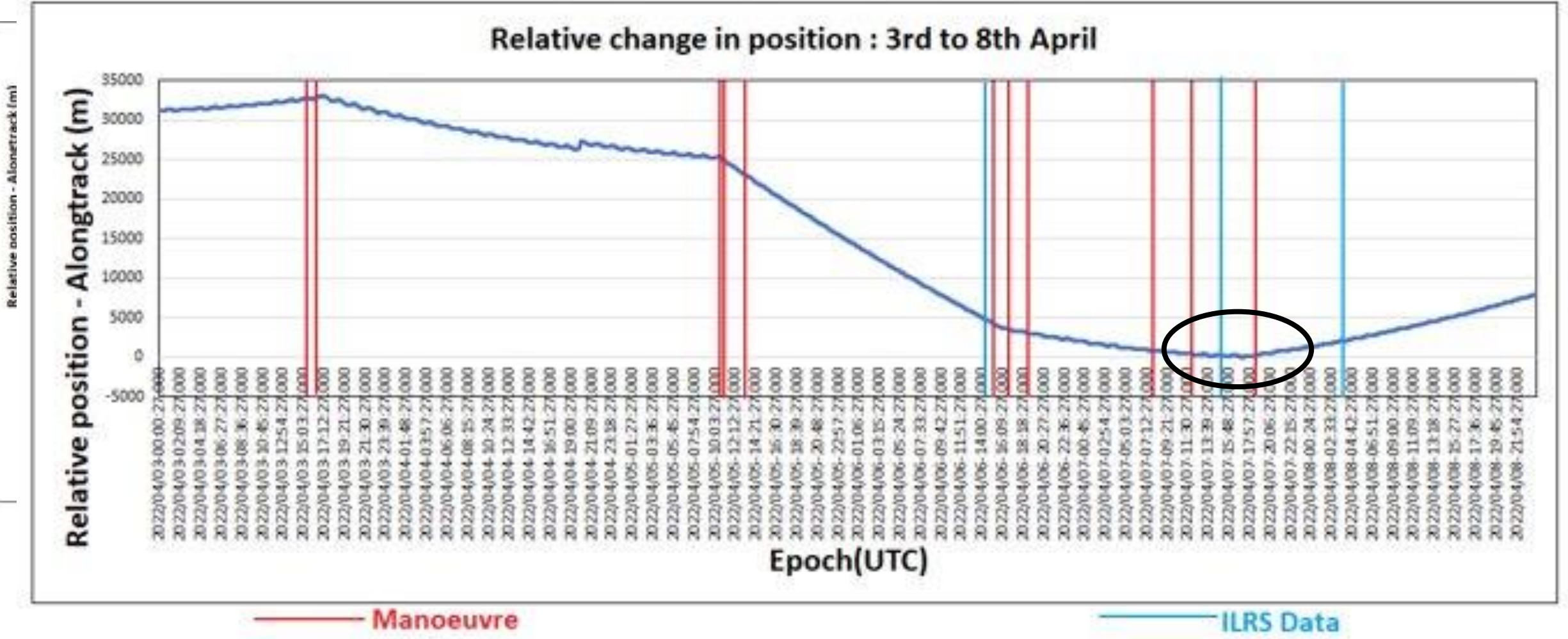
➤ Demo 3b



Successfully Completed

Anomaly Encountered

Demo 3b



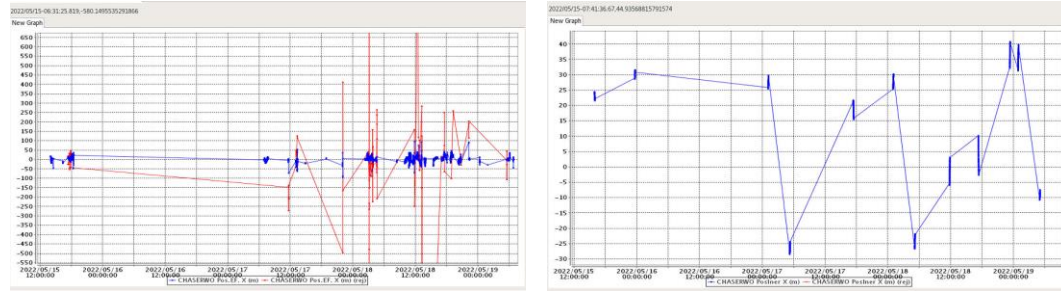
ELSA-d OD



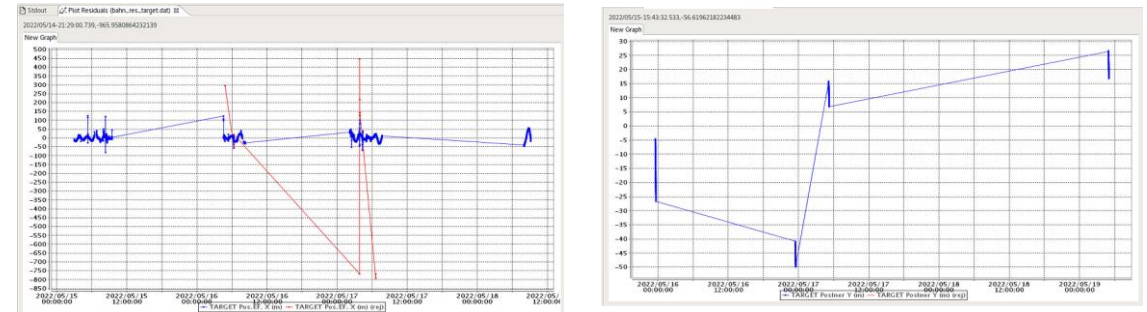
Orbit determination is done by fusing the ILRS , GPS and LeoLabs Data

Plots source: GMV's FOCUS

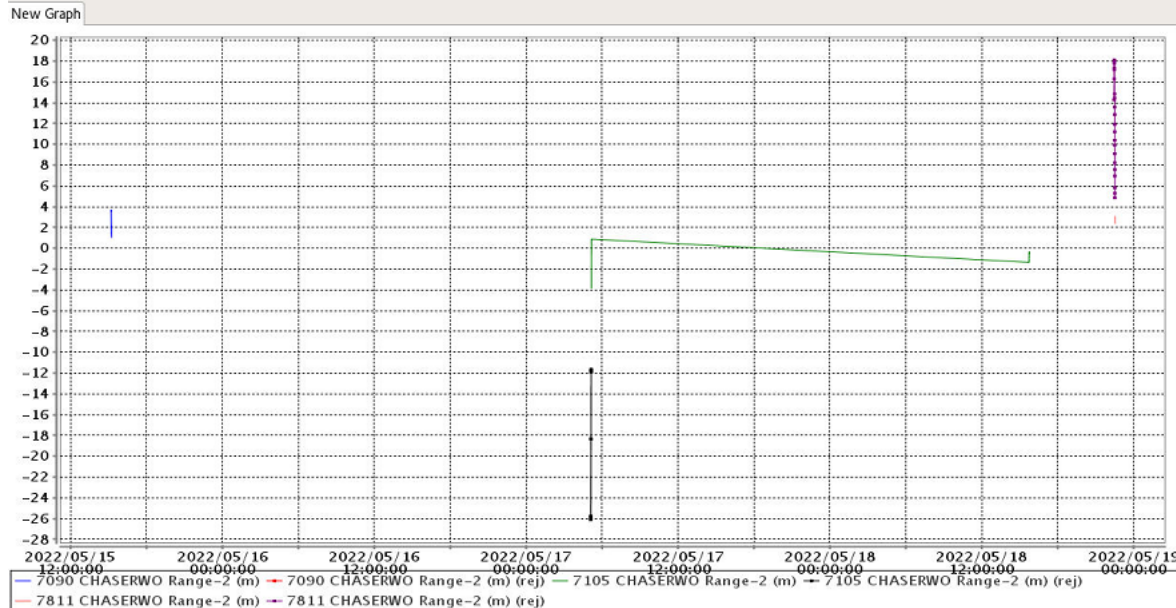
Servicer Residual Plot



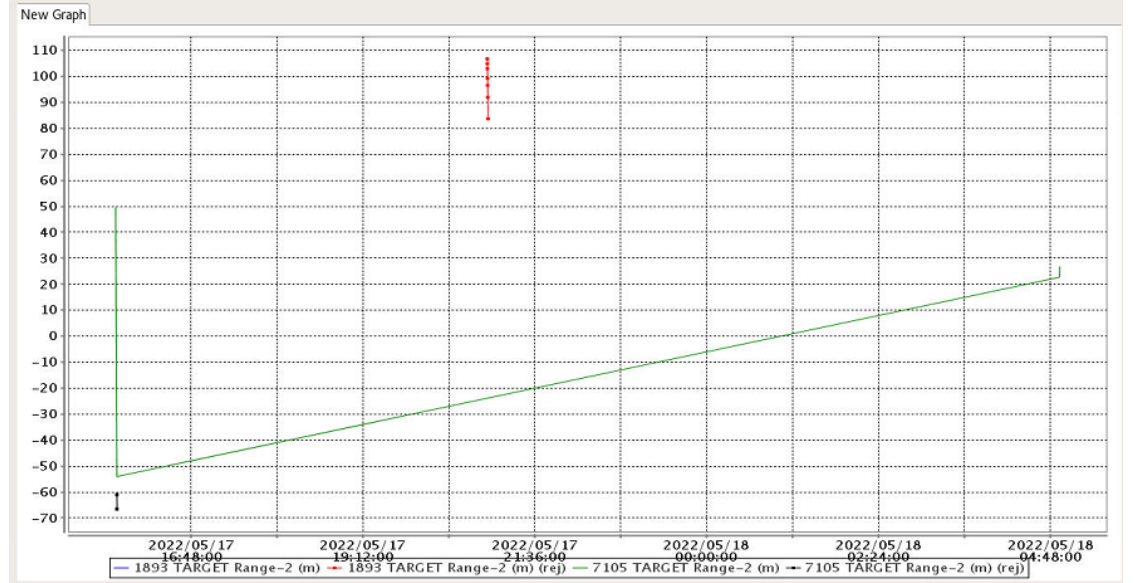
Client Residual Plot



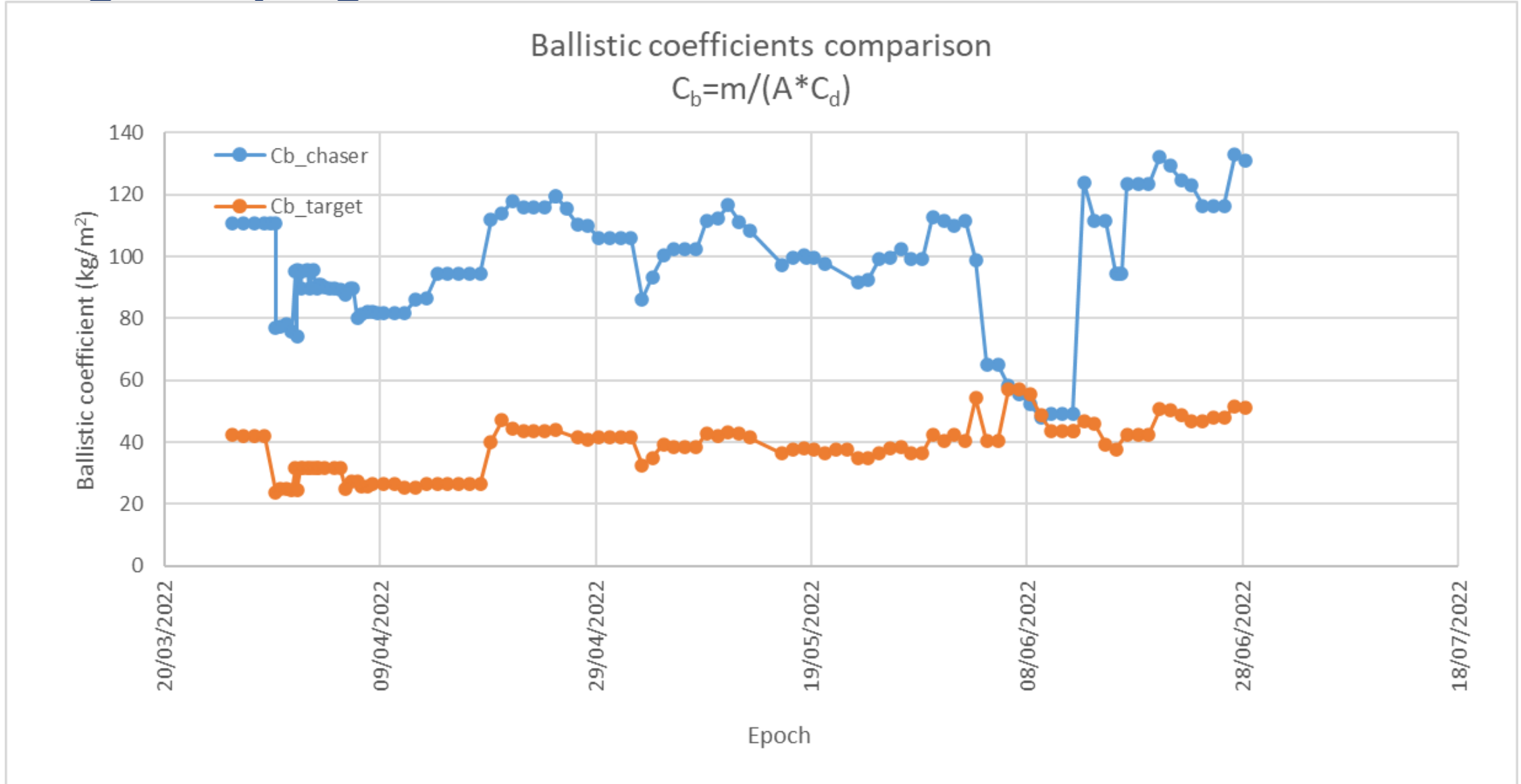
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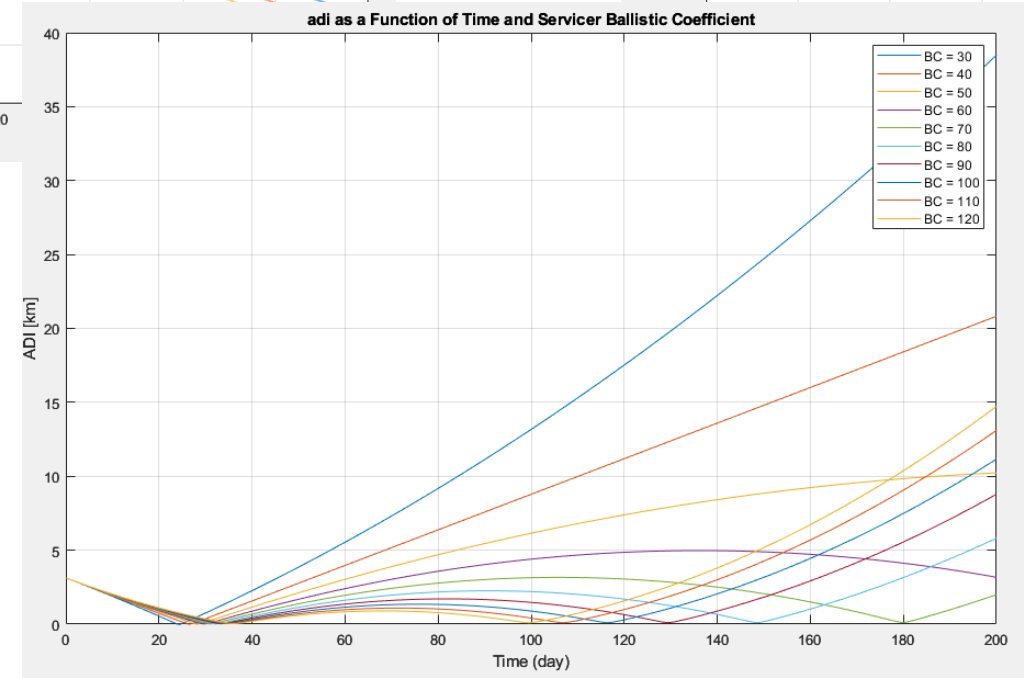
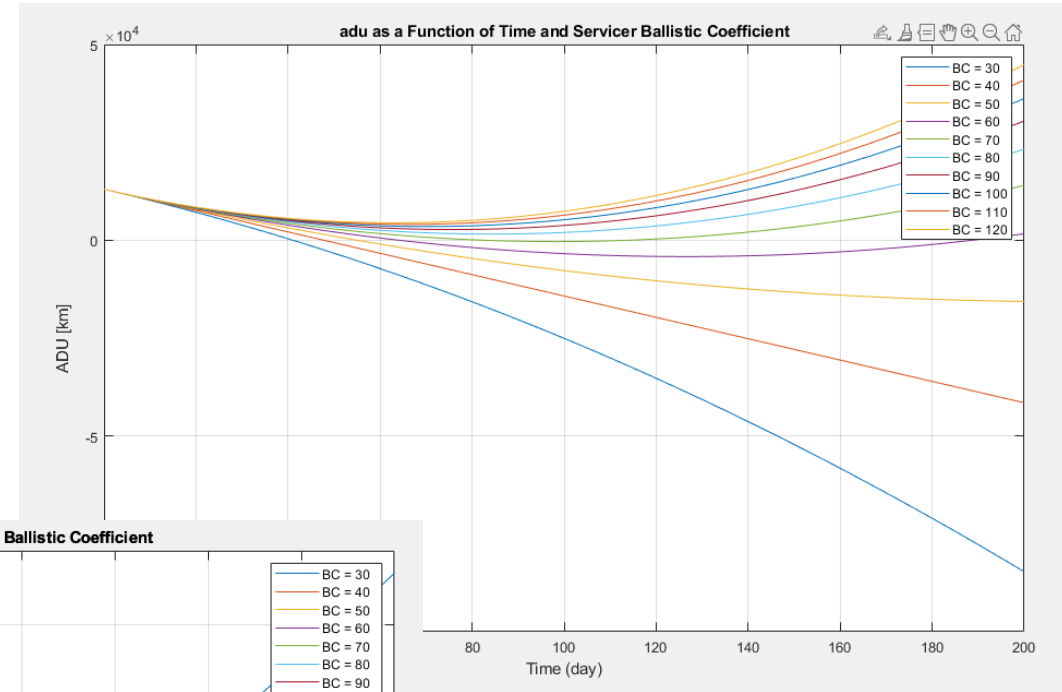
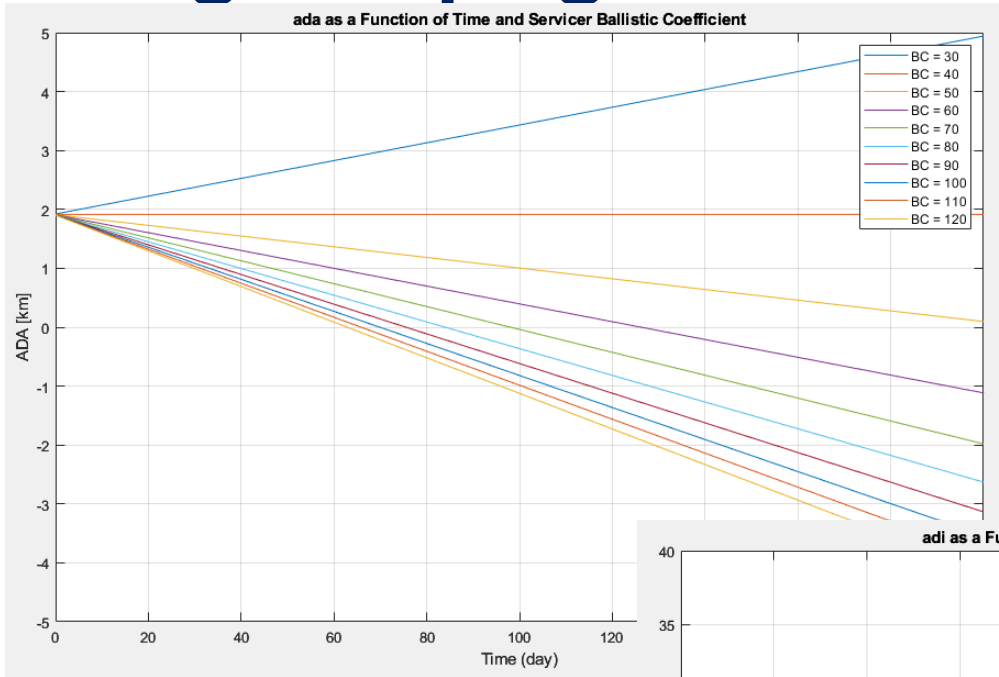
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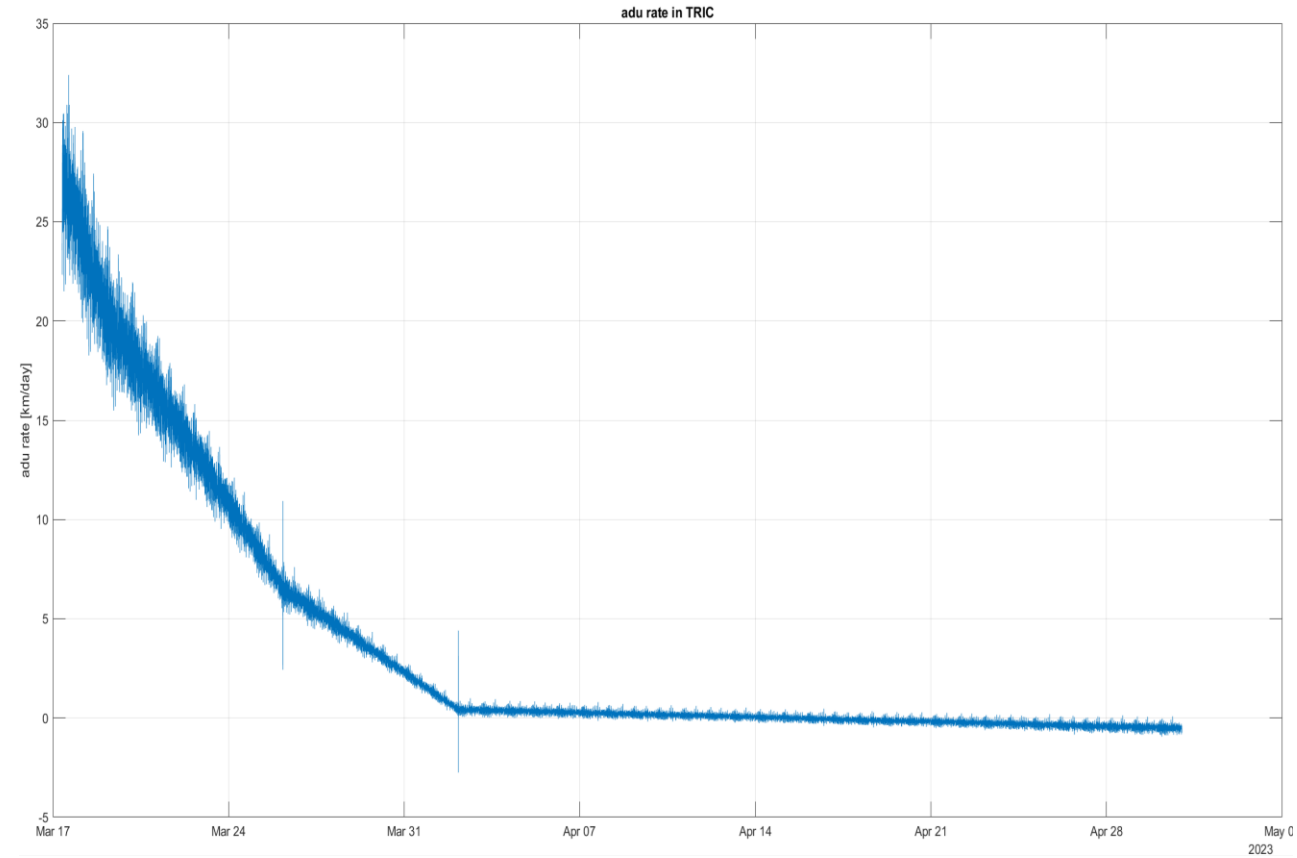
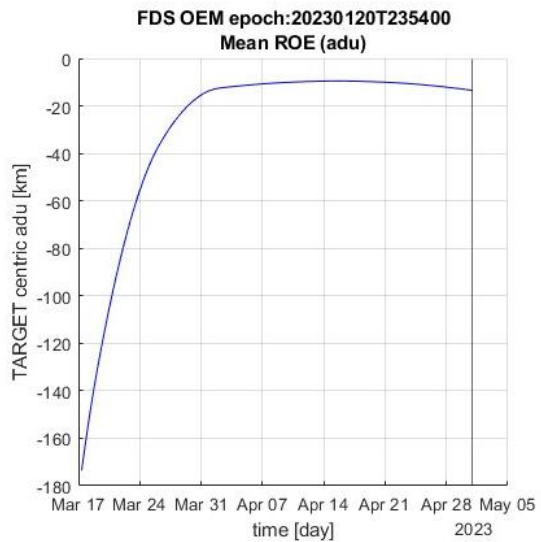
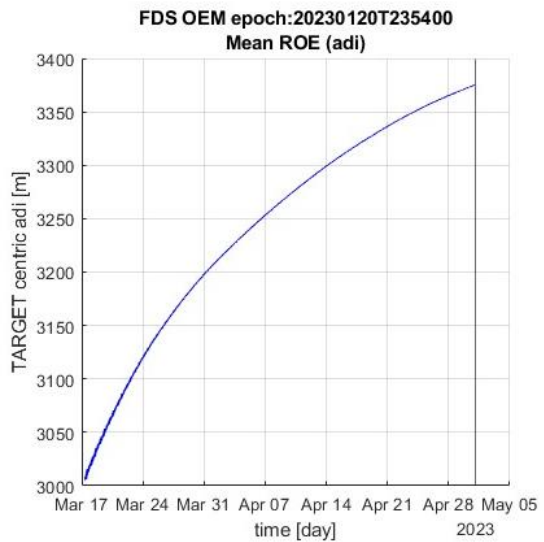
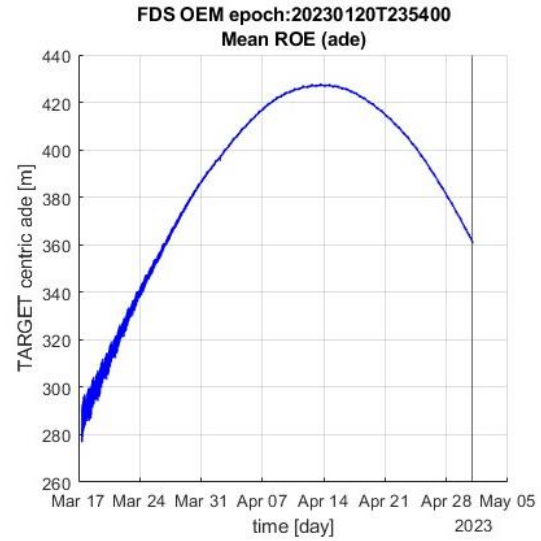
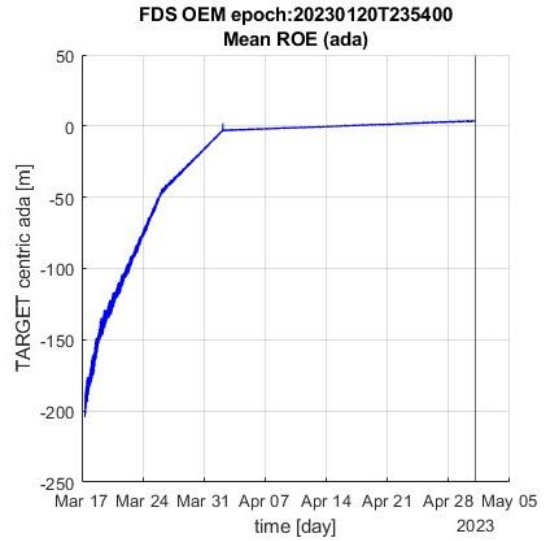
Drag Campaign



Drag Campaign



Drag Campaign



Drag Campaign

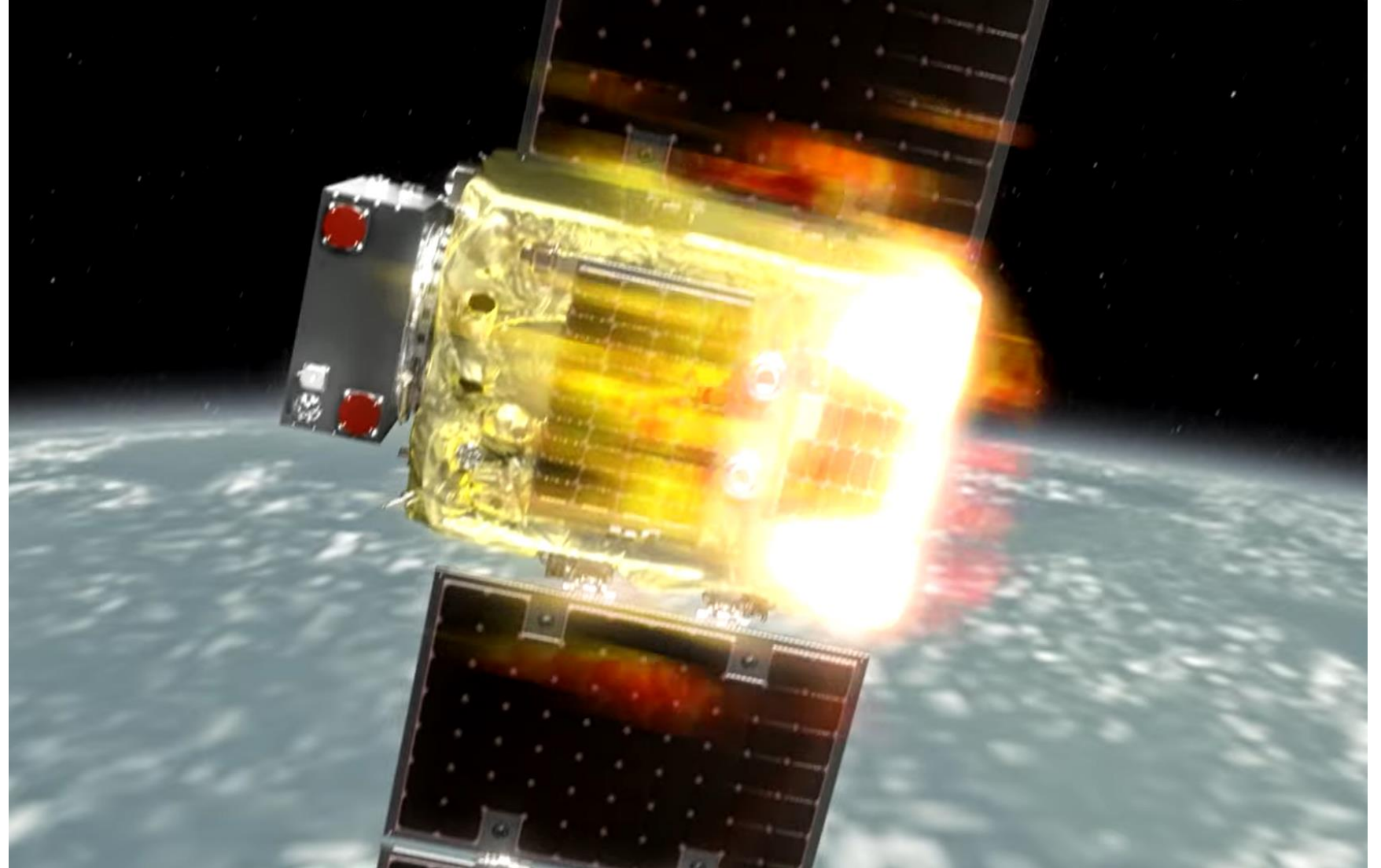


De-orbiting



- Started - May 2023

- Goal Completion Date – End of 2023





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