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Trajectory Overview

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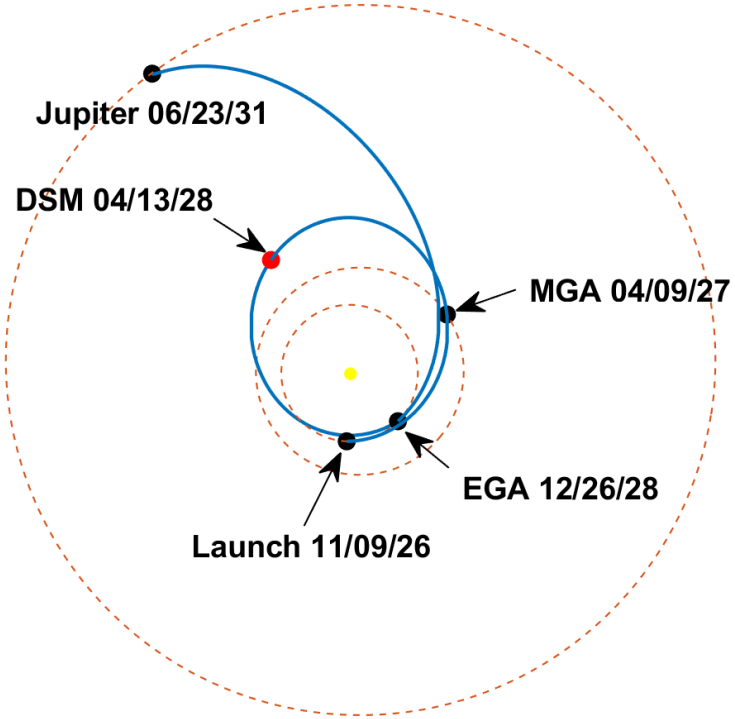
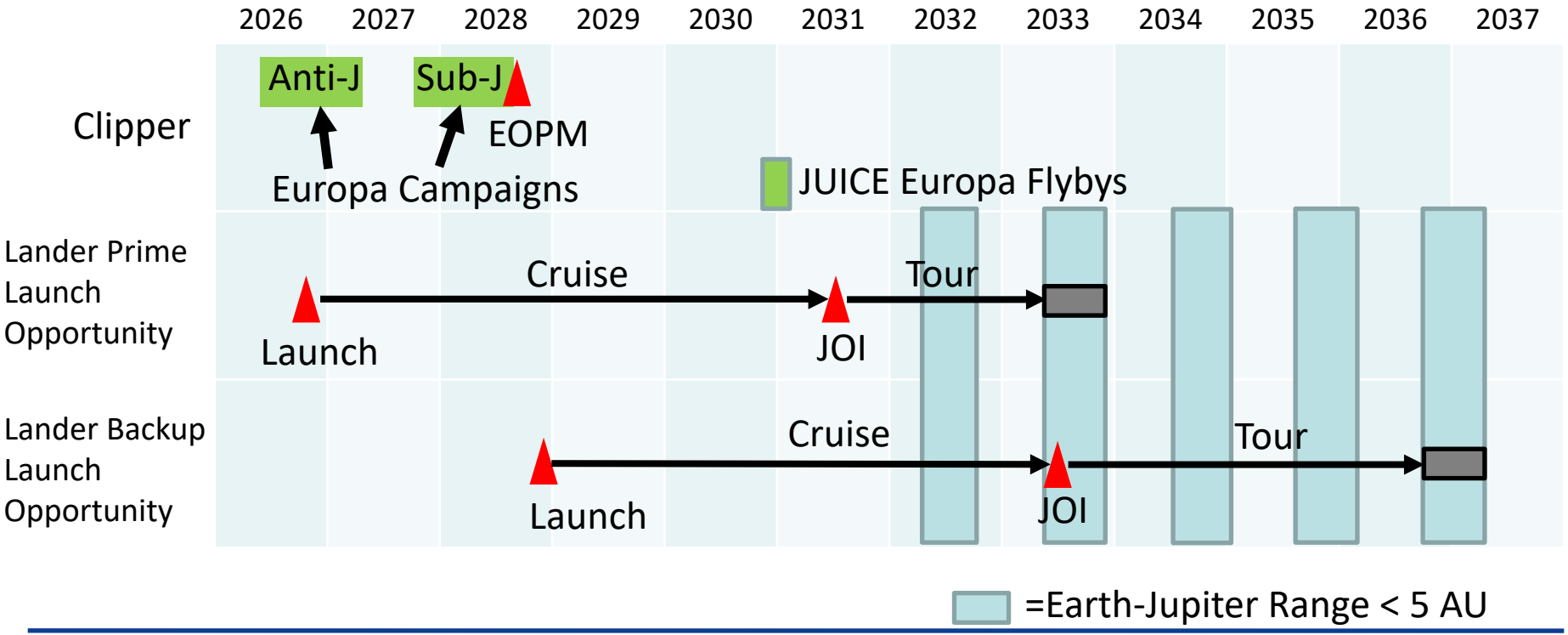
Interplanetary Trajectory



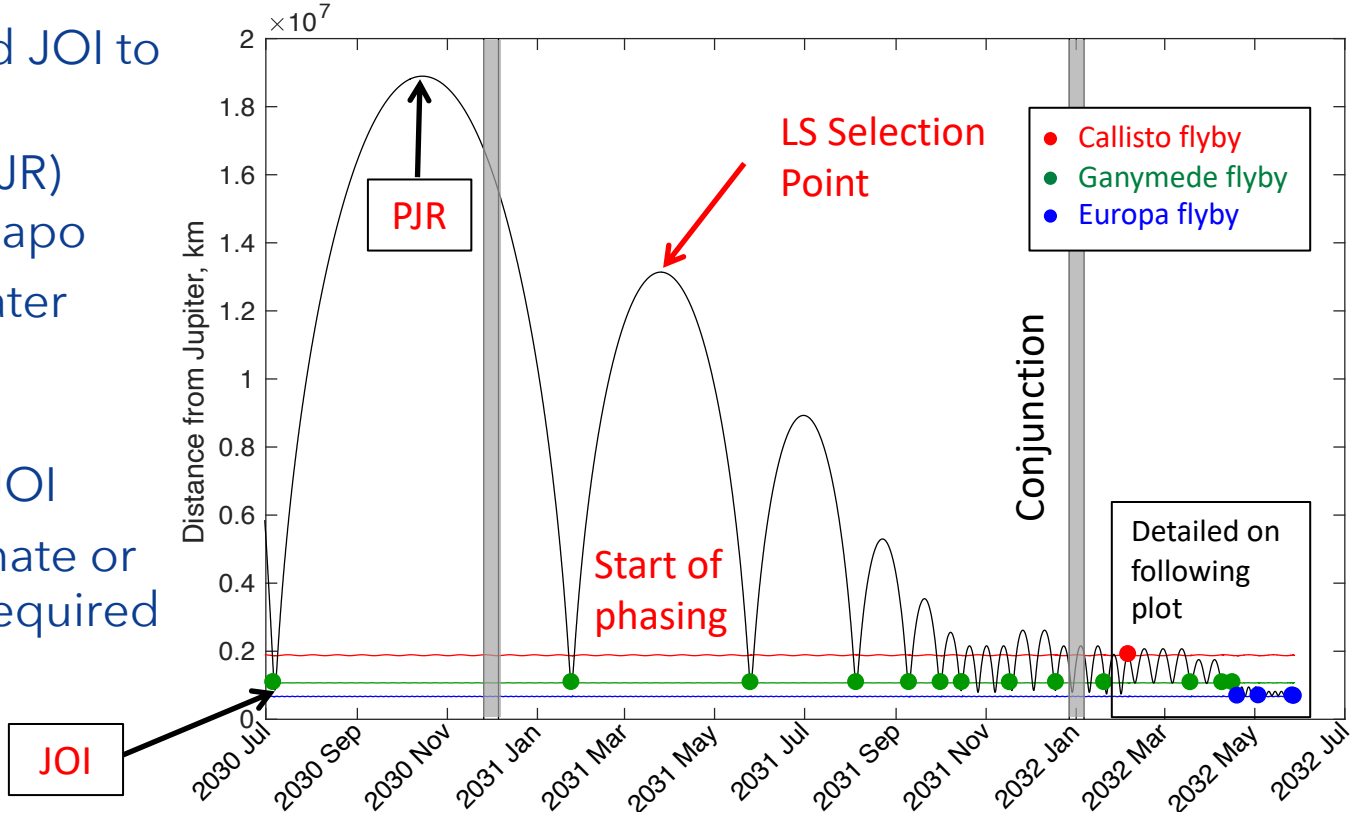
- Planned for launch in 2026
- Requires SLS Block-1B, max C_3 35.6
- Total deterministic spacecraft ΔV of 1015 m/s thru PJR
  - Small DSM for some launch dates, to preserve fixed arrival date at Jupiter
  - Total Cruise Stage ΔV of 1700 m/s
- Backup opportunity in 2028
  - Requires 175 m/s more

Clipper Campaigns vs Lander Mission Timeline



Example Jupiter Tour Overview

- Ganymede flyby and JOI to capture at Jupiter
  - PeriJove Raise (PJR) maneuver at first apo
- LS selection by no later than post-G1 apo
  - More flexibility if selected before JOI
  - No backup/alternate or contingency LS required

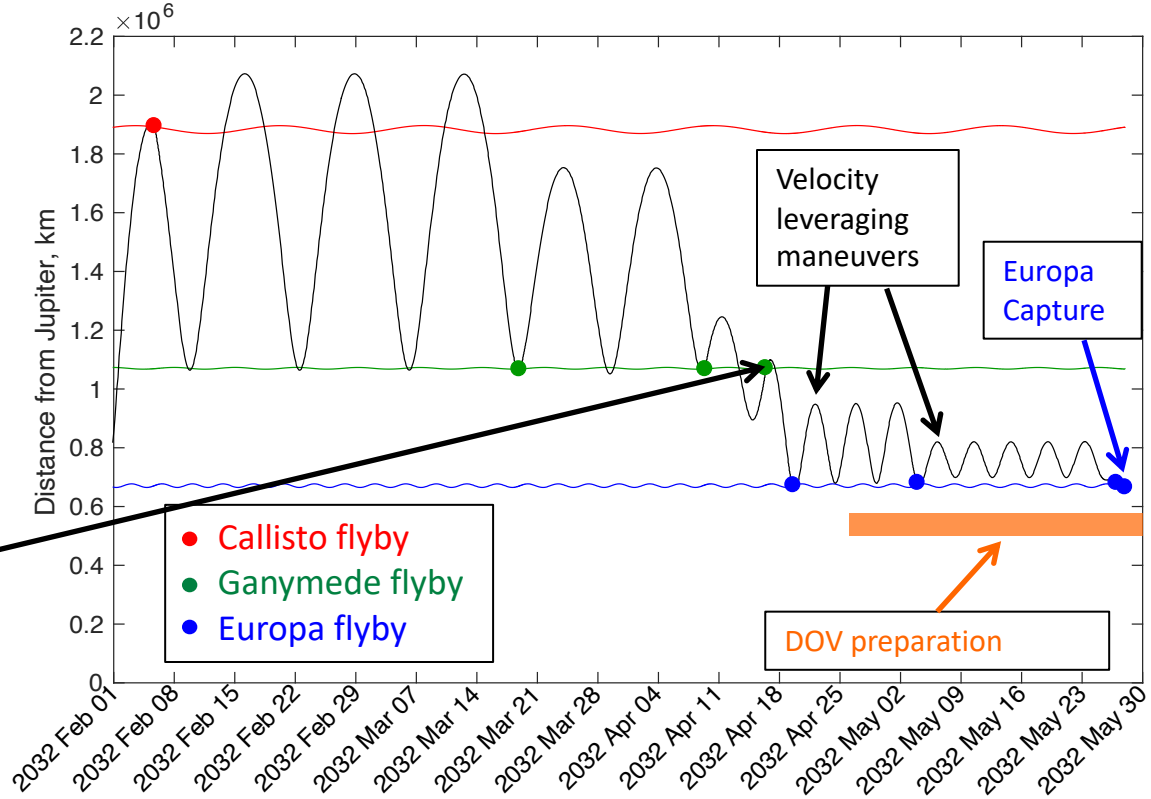


Pre-Decisional Information – For Planning and Discussion Purposes Only

Example Late Tour and Endgame, Leading to Low Energy Europa Capture

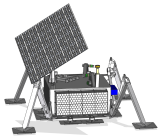
Arrival time at Ganymede-Europa transfer adjusted to help meet lighting conditions at landing

G_{final}, start of Endgame phase



Leveraging maneuvers total 150-200 m/s

Europa Arrival and Landing



- Low energy capture at Europa
- EOI into stable elliptical orbit
  - Time in orbit 3-10 days, depending on landing site
- DOV separation
  - Periapsis drop maneuver to set up landing
  - Deorbit, Descent, and Landing (DDL)
- Cruise Stage disposal in place
  - Orbit stable for >10 years