



# COMet Nucleus TOUR



## Draft Encke Again

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## Draft ENCKE Sequence



### **Encounter Development Plan**

- Efforts currently under way to update original draft with new information
- Revised encounter inputs for Mission Sim II solicited from all teams - due Feb 1
  - Sequences should be as realistic as possible
  - This exercise will help us to further refine understanding of what mission constraints will be placed on science sequencing
- Team leads will work new plan within each team, identify issues/trade-offs
- Full science discussion at April Team Meeting, Cornell



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## Draft ENCKE Sequence - Assumptions

### **Final Playback prior to encounter at about -6 hr**

- Actual science data total allowed for encounter not known yet - probably about 4.5 Gbits

### **New Tilt Profile**

- -96 hr to -1hr - Periodic turns to 6 and 3 deg for approach CRISP Spectrometer calcs, CFI
  - 2.5 deg tilt maximum inside 100,000 km
- -1hr to -6min - Periodic turns to 2.5 deg for CFI and CRISP imaging
- -6min to -150sec - Continuous 2.5 deg tilt (for CRISP tracking and imaging, and CFI imaging)
- -150sec to -44 sec - Continuous .5 deg tilt (for CFI imaging, CRISP tracking, encounter imaging)
- -44 sec (or thereabouts) - slew to zero deg tilt position (CRISP encounter, and post-encounter)



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## Draft ENCKE Sequence - CRISP CA



### **“Good Targetting” Plan**

- Closed-loop tracking (on B side of mirror) enabled at -6 min
- At about -2.5 min, disable closed-loop tracking, flip to A
- Resume tracking until CA macro is selected

### **Closest Approach Macro Selection**

- Tracking s/w broadcasts miss-distance and time of CA
- 5 encounter macros sitting in DPU, designed for +/- 2 sigma, +/- 1 sigma, and nominal miss distances
- Selection of encounter macro based solely on miss-distance estimate
- Time of kick off of that macro occurs when mirror angle reaches 6 deg off s/c Z (for unvignetted imaging)