



Attitude Determination and Control
Subsystem Weekly Meeting

Meeting Date	3/31/2014		
Meeting Place	SSRL	Leader	Tom Moline
Minutes Date	4/1/2014	Participants	Max Polley, Mike Sarber, Kate Clements, Trevor Woolfolk, Nate Richard, Denana Vehab

Description	Action	Due Date
<p>ADC Overview:</p> <p>Key Terms:</p> <ul style="list-style-type: none"> • RSO=Resident Space Object • Target/Secondary/Dummy/Slug=Rascal Spacecraft that Does not Have Active Control or Propulsion • Interceptor/Primary/Brascal=Rascal Spacecraft that Does Have Active Control and Propulsion • Stationkeeping=Maintaining a Set Distance between the target and chaser <ul style="list-style-type: none"> ○ Remote Stationkeeping (RSK): stationkeeping beyond 10 meters ○ Inspection Stationkeeping (ISK): stationkeeping within 10 meters • Separation: going from ISK to RSK • Rendezvous: going from RSK to ISK • RPO=Rendezvous and Proximity Operations <p>Mission:</p> <ul style="list-style-type: none"> • Start out together • Command Separation • Enter Search Mode/Detumble • ISK • Continued Separation • RSK • Rendezvous • Repeat if Possible without Aids 		



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<p>Current Status:</p> <ul style="list-style-type: none"> As of now, we have a MatLab script that plots the path and velocity of the interceptor relative to the target for various initial relative velocities and final positions. This allows for the formulation of ΔV calculations for the mission, which range from 1 m/s to 50 m/s (best to worst case). Everything is defined in terms of CW Coordinate frame (More on this in document that will be sent out). Can also take the information from Matlab and produce an animation of the mission in STK <p>Future Work:</p> <ul style="list-style-type: none"> Need to split into two separate teams: one focusing on developing control systems for the primary spacecraft, and one focusing on the detumbling mechanism for the secondary spacecraft. <ul style="list-style-type: none"> DV, TM, and MP will likely focus on the former, with TW, MS, and KC on the latter. Otherwise, literature is available for anyone to read on control systems and orbital mechanics (on the conference table in the lab). Let's go! 	<p>Send out ΔV analysis summary (TM)</p>	<p>04/01/2014</p>