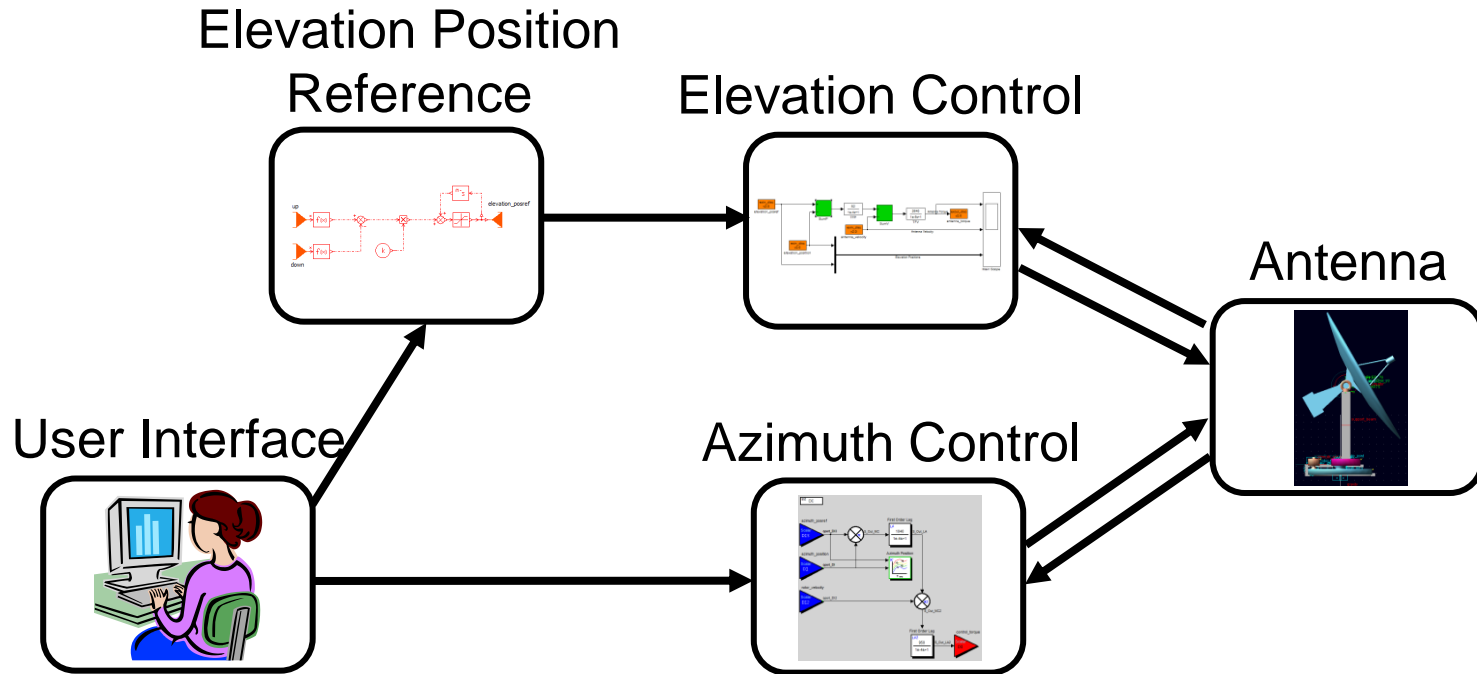




A Cosimate Application Antenna

KiasTek
Toulouse - France

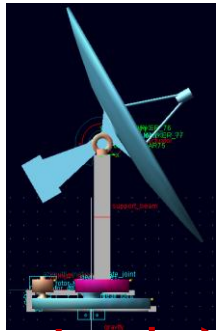
Application Description



- Antenna: mechanical model (3D) in MD Adams
- 1D models computes torques to apply on mechanical parts to control the Azimuth and Elevation positions.
- User interface developed in UML diagrams (Rhapsody)

Co-simulation setup

Antenna (MD Adams)

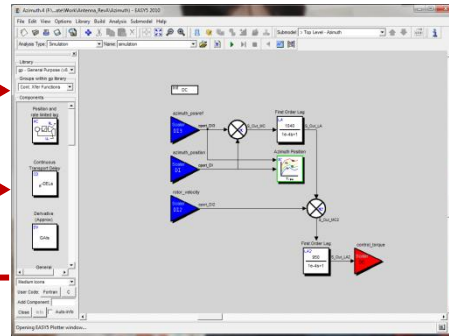


Azimuth Position

Rotor Velocity

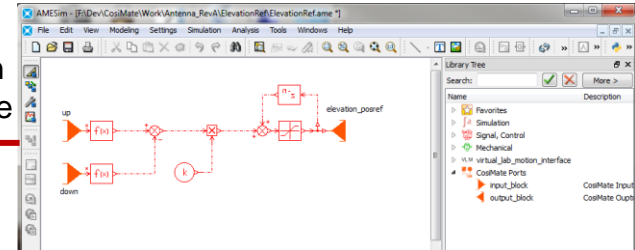
Torque

Azimuth Control (Easy5)



Elevation Reference

Elevation Reference (AMESim)



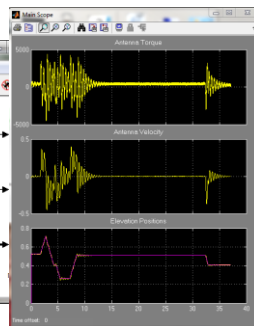
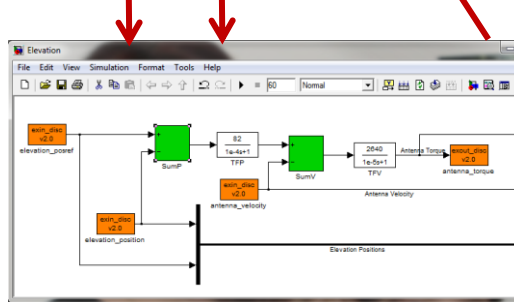
Up

Down

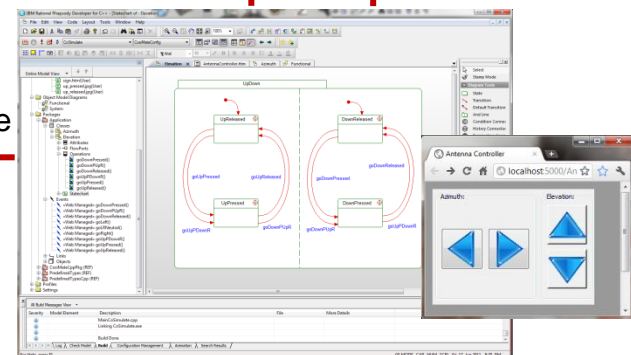
Antenna Velocity

Torque

Elevation Position



Azimuth Reference

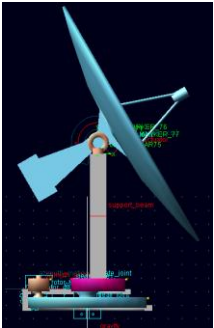


Elevation Control (Simulink)

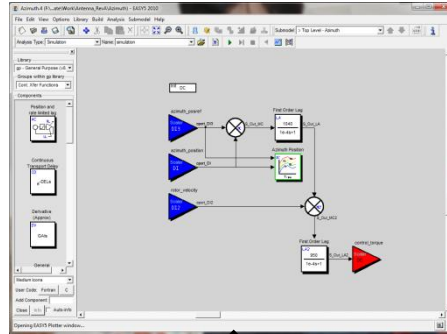
User Control (Rhapsody)

Co-simulation setup

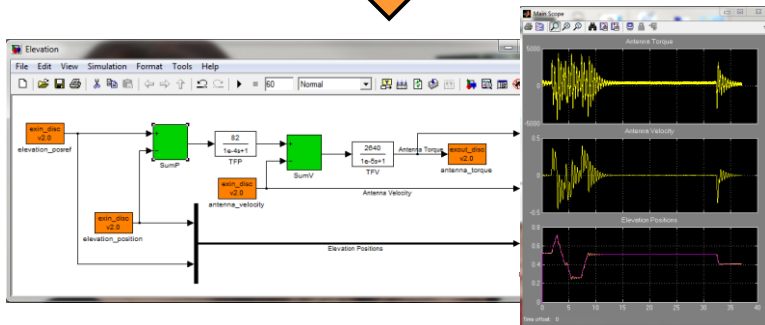
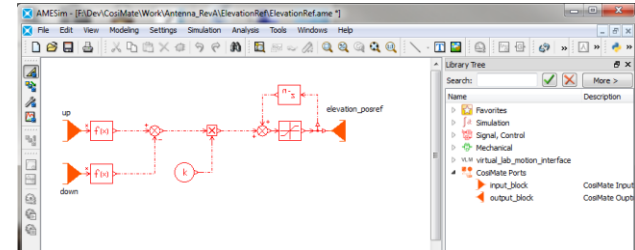
Antenna (MD Adams)



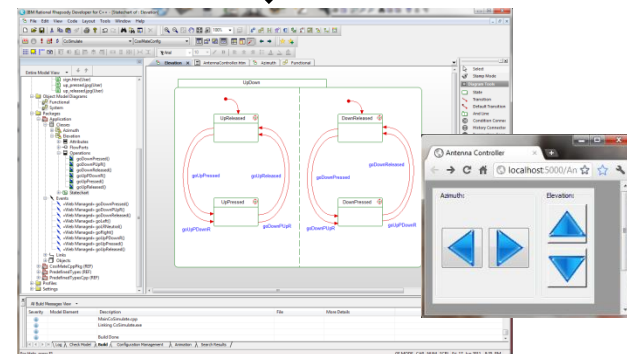
Azimuth Control (Easy5)



Elevation Reference (AMESim)



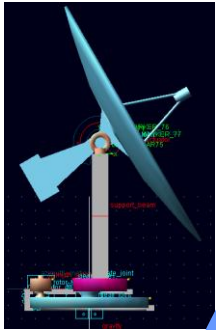
Elevation Control (Simulink)



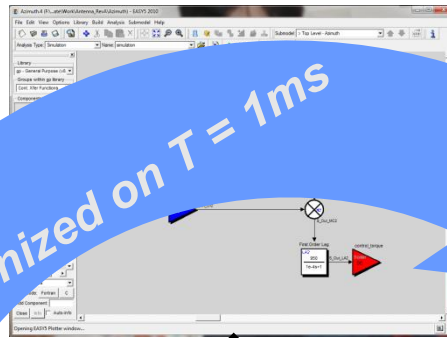
User Control (Rhapsody)

Data synchronization

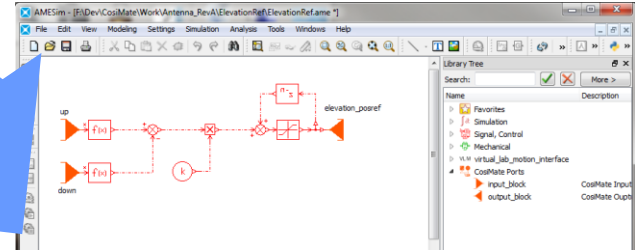
Antenna (MD Adams)



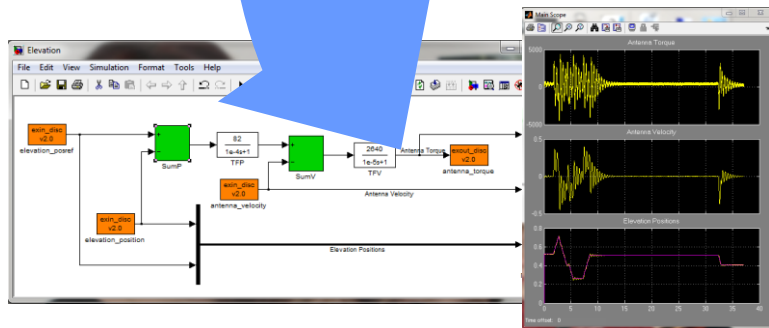
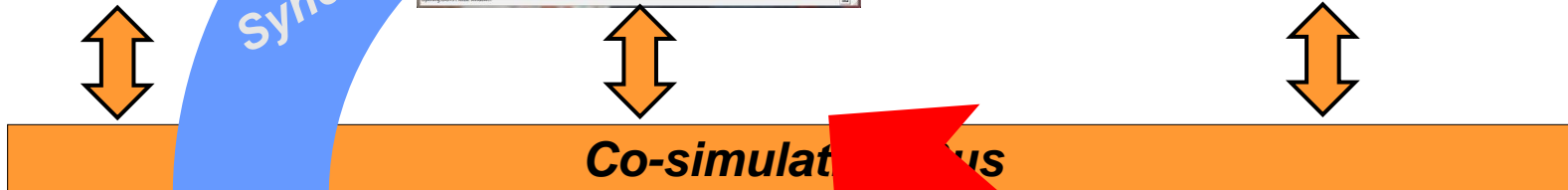
Azimuth Control (Easy5)



Elevation Reference (AMESim)

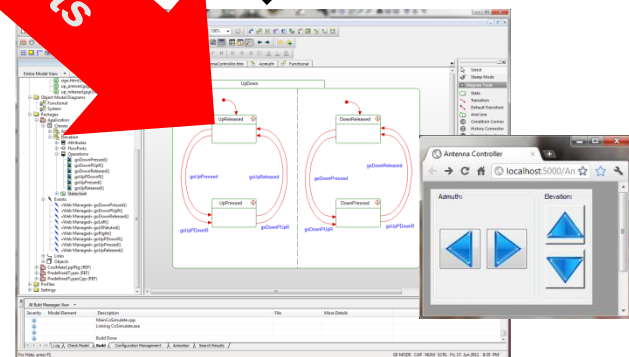


Synchronized on $T = 1ms$



Elevation Control (Simulink)

Events



User Control (Rhapsody)

DEMO

Click on one of the links below to watch the video:

http://www.chiastek.com/products/Demo_Antenna_Full.mp4 (9 mins)

Or

http://www.chiastek.com/products/Demo_Antenna_Short.mp4 (2 mins)