

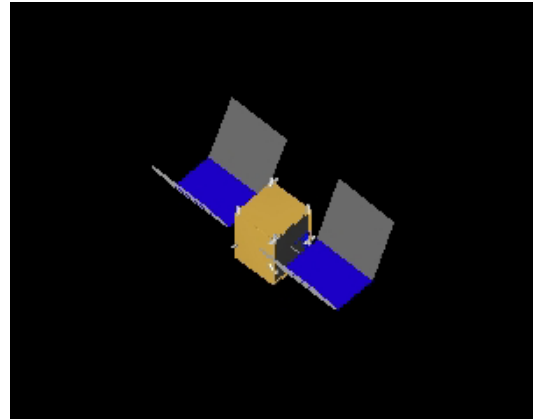
Spacecraft Control Toolbox Learning Edition

for use with MATLAB®

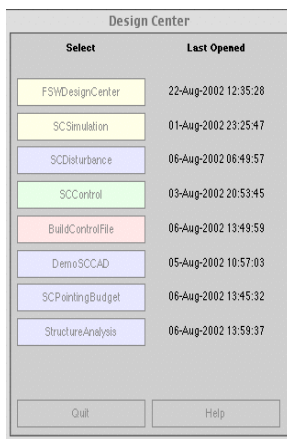
The Spacecraft Control Toolbox Learning Edition contains all the necessary tools a student will need to explore the field of attitude control in the context of a complete spacecraft system. The manuals and software were developed by a team of aerospace professionals with 20 years of experience in spacecraft control for missions such as TDRS, Indostar, GPS IIR and InmarSat 3. You will not find a more robust teaching tool anywhere else!

- 350 page orbit and attitude control theory manual
- 150 page User's Guide with examples
- The core of the Professional version of the MATLAB Spacecraft Control Toolbox
- Integrated Learning Edition software layer

Spacecraft CAD model seen in the simulation graphics window



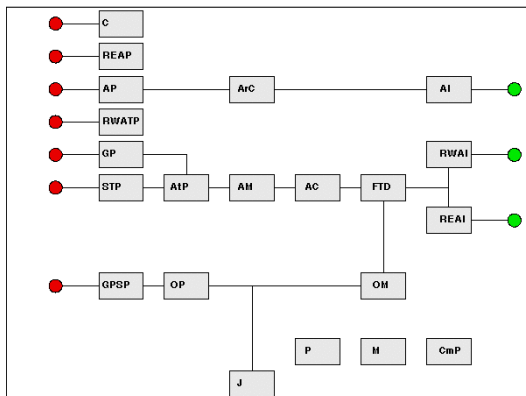
Tools for Active Learning



Work in the Learning Edition begins at the design center, where you can jump to the spacecraft CAD model, software design center, or simulation. The module provides a point spacecraft design with a complete attitude control system, which has the following features: 3-axis control with reaction wheels; momentum control with hydrazine thrusters; GPS receiver for orbit determination; gyro and star trackers for attitude determination.

Student can recompensate the existing attitude control system or design a new spacecraft with different sensors and actuators using the demonstration spacecraft as an example.

Interactive Block Diagram from Flight Software Design Center



The Learning Edition provides students and faculty with the following tools for only \$99.00.

Educational Topics

The Spacecraft Control Toolbox Learning Edition provides an appropriate work environment for the following topics:

- Attitude and orbit dynamics
- Attitude control law design
- Reference vector and coordinate transformations
- Hohman orbit transfers
- Sensor and actuator device selection
- Angular momentum, momentum storage and unloading
- Calculation and application of disturbance torques
- Pointing, fuel and mass budgets
- Software architecture design
- Commanding and mission operations

The following advanced topics can be addressed using the core Spacecraft Control Toolbox.

- Multibody dynamics
- Kalman filter estimation

For further information, please contact:

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