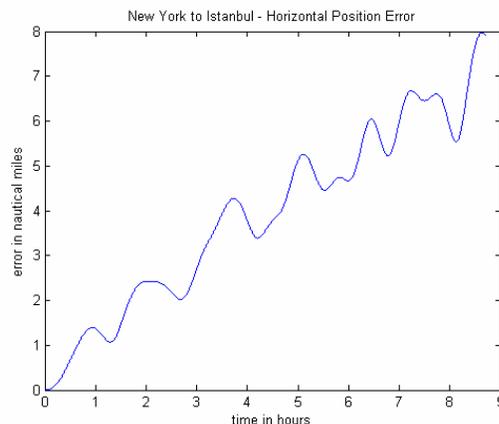
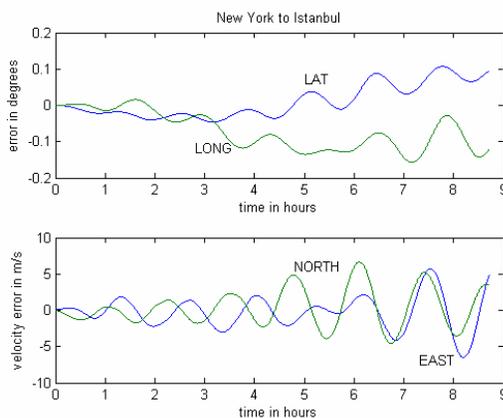


INS Toolbox 3.0 for MATLAB®

by GPSoft®

- F-16 6DOF flight profile/trajectory generator ***now with feedback control!***
- Land vehicle trajectory generator
- Conversion between trajectories in local-level frames and earth frames
- Raw measurement generators (delta-V and delta-theta)
- Error source emulator (gyro and accel biases, scale factors and noise; initial position, velocity and tilt errors)
- Direction cosine matrix and quaternion attitude updating
- Great circle path generator and display
- Four built-in wander azimuth mechanizations (North-pointing, free azimuth, Foucault, unipolar)
- Coordinate system conversions (ECEF, ENU, earth-frame, body-frame, nav-frame, local-level-frame)
- Ellipsoidal, rotating Earth effects included
- Fully compatible with SatNav Toolbox
- 210 page user manual
- Over two dozen example programs included
- \$2295 (available from Navtech)



For more information: www.gpssoftnav.com

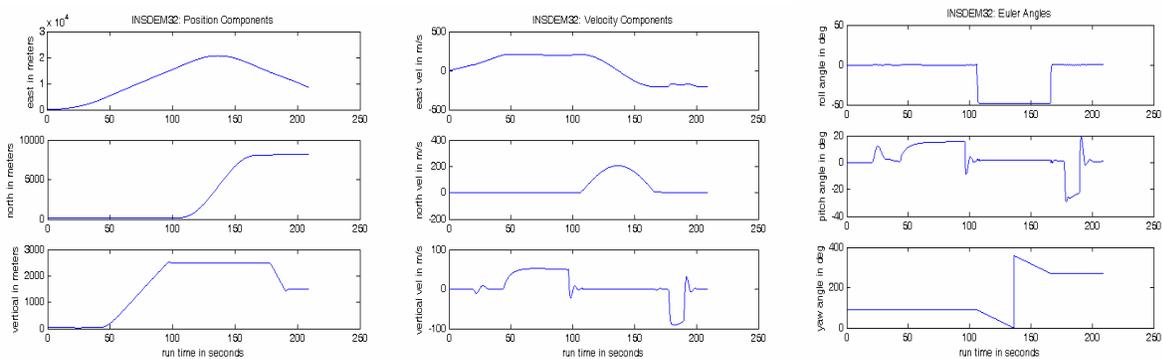
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Can your trajectory generator handle this?



(U.S. Air Force photo/Senior Master Sgt. Robert Sabonis)

The new INS Toolbox by GPSof[®] can!



Position

Velocity

Attitude

F-16 6DOF with Feedback Control in GPSof's INS Toolbox 3.0 for MATLAB[®]

INS Toolbox v2.0

Inertial Navigation Systems Toolbox for MATLAB by GPSoft

Version 2.0 This version extends the capabilities of the original toolbox with a number of key features. Among these are a non-linear 6DOF flight profile/trajectory generator, a land vehicle trajectory generator, an improved delta-theta measurement emulator and Functions that allow the user to define a dynamic trajectory in a local-level coordinate frame and then perform a full INS simulation in the rotating earth frame.

Expanding on the highly successful SatNav Toolbox, the INS Toolbox has been designed specifically with simulation and analysis in mind. Raw measurements (delta-V's and delta theta's are generated and typical error sources (gyro and accelerometer biases, scale factor errors, noise and initialization errors) are emulated. The Toolbox is fully compatible with the SatNav Toolbox to allow for integrated system analysis and simulation.

Over 30 example programs are provided to illustrate the use of the functions. All routines are provided as M-files thus allowing the user full access to the code and the ability to modify to suit one's needs. Full documentation is provided through an extensive user manual as well as through the MATLAB® HELP command. The INS Toolbox is easy to use (ideal for educational purposes, yet powerful for the seasoned GNSS engineer). In addition to the product itself, GPSoft provides technical support for all registered users. **INS Toolbox is compatible with MATLAB v6.x and v7.x**

Features

New:

Non-linear 6DOF flight profile generator (position, velocity, acceleration, attitude, time) emulates three-dimensional trajectories: straight-and-level, climbs, descents, and turns; multiple -rate sampling supported

Land vehicle trajectory generator

Conversion utilities to translate dynamic vehicle profiles from local-level coordinates to rotating earth referenced coordinates for full INS simulation.

Improved Delta-Theta measurement emulator

Improved:

Great circle path generator

Raw measurement emulation (delta-V's and delta-theta's)

Measurement error emulation (gyro and accel biases, scale factor errors, noise, initialization errors)

Attitude updating via direction cosines and quaternions

Conversion routines between Euler angles, direction cosines and quaternions

Arbitrary choice of system mechanization (north-pointing, wander azimuth, etc.)

Position and velocity updating algorithms

System Requirements:

2 GHz Pentium or higher and Matlab 6.1 or higher