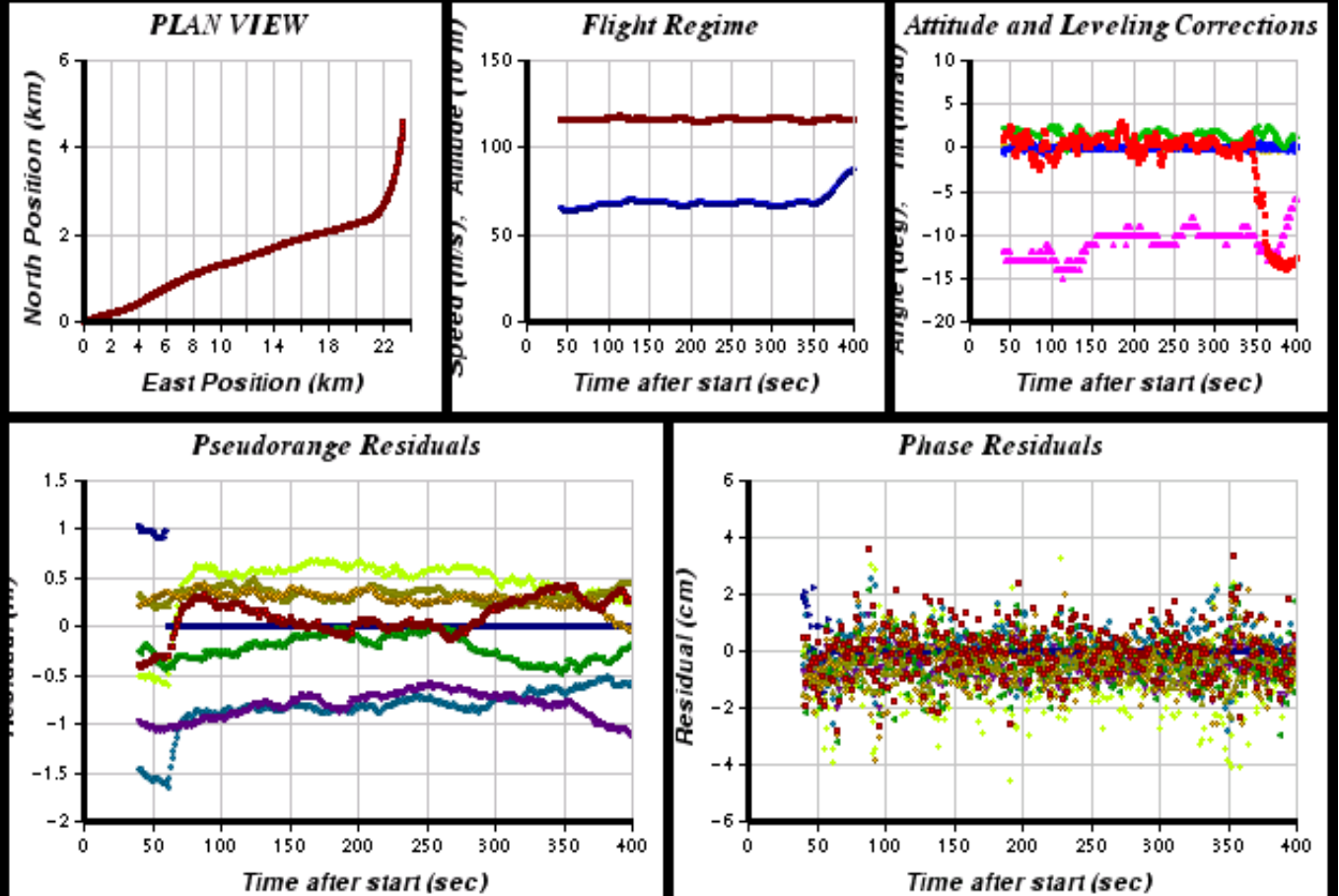


Input data file is d04036.dat at 15 Hrs 10 Min 0 Sec GPST on Day # 36 of 2004
 RCUR displacement from IMU [A/C(l,m,n) coordinates]: -0.31 1.23 -1.91 meters
 Ref Position for Plan View is 39 deg 22 min LAT (N) and 81 deg 39 min LON (W)
 10 States Data windows 15.0 15.0 30 sec
 RMS Errors: 2.0 m [Dprng] 0.020 m [DDphase] INIT: 5000.00 m [position]
 2.000 m/sec [velocity] 0.020 rad [misorientation] 1.00 mrad/sec [drift]



This is one of several sets of plotted results from almost an hour of flight test. I divided the full duration into intervals of about seven minutes each. For each period I put results into plots like these. Below the top section showing applicable conditions, the first plot on the left gives the ground track. You can see the turn late in this period. Next to that is a plot of speed (in meters/second) and altitude (in decameters, for convenience in plotting with the same scale numbers). When altitude holds nearly constant as a crosswind transitions into a tailwind due to a turn, a speed change is no surprise. The graph on the upper right contains 5 plots. There's roll angle in red, pitch angle in green, drift angle in magenta (that's the azimuth deviation of horizontal velocity direction off heading), and there are two plots hugging the abscissa those are tilt corrections off the two horizontal coordinate reference lines. In this plot the yellow one is swamped out by the blue one but in an enlarged scale they show up with RMS values on the order of 0.3 millirad state-of-the-art performance.

The other two plots show residuals for the pseudorange and carrier phase differences. The former are good to within a meter RMS and the latter give further testimony to RMS velocity accuracies on the order of a cm/sec. All flight periods at altitude produced this same level of performance.