

## CE 503 Homework 4, Bundle Block Adjustment

Assigned 14 October, 2005, due 1 week

1. find the program (pba2.m, ...) and data files on the geomatics drive under i70 folder in flt16.zip
2. For each requested experiment, start with the files as given, and modify with a text editor, run, and save output listing to a file.

Experiments:

1. Make a solution with minimal constraints
2. Make another solution with minimal constraints, compare residuals for cases 1 & 2.
3. Make a solution with 4 full control points
4. Make a solution with all control points, compare residuals from 3 & 4 to each other and back to 1 & 2
5. Choose a 2-ray point, introduce 100um error into 1 y-coordinate, look at residuals
6. With same 2-ray point, introduce 100um error into 1 x-coordinate (put the prior y-error back to being correct!) look at residuals.
7. Choose a 3-ray point, introduce 100um error into 1 y-coordinate, look at residuals.
8. With same 3-ray point, introduce 100um error into 1 x-coordinate, look at residuals.
9. With same 3-ray point, introduce 1mm, 5mm, 10mm, 50mm, 100mm, 500mm, 1000mm error into 1 y-coordinate, look at convergence and residuals if appropriate.