

Dig. Photogr. Systems CE 557 (19)

Homework #2, assigned Wed 24 Sept 08, due Wed 1 Oct.

1. find photo1-08-hw2.zip in ftp.ecn.purdue.edu under folder betmel.
2. measure 8 fiducial marks in photo G-10 and compute the 6-parameter transformation as described in class.
3. invert the transformation and use this form to obtain image measurements (in fiducial system) of "base" and "top" of CE, Chemistry, Math-Sci buildings and the bell-tower. Use these plus assumed nadir point @ PP to obtain heights (above ground) of the 4 buildings. (Relief Displacement)
4. from step 2 results, go back to the symbolic version of the transformation (6-par) and derive expressions for scale-x, scale-y, θ (general rotation), and, α (non-orthogonality). Find numerical values from your results.

Note: the distance between centers of the engineering mall fountain and the fountain south of bearing hall is 441.1 m. Use that plus the focal length to obtain approx. flying height.