Photo 2, Homework 5, Spring 2011
RPC refinement & image rectification assigned 4 Mar, due Fri Mar 25

(1) Refine the given RPC's using the model :

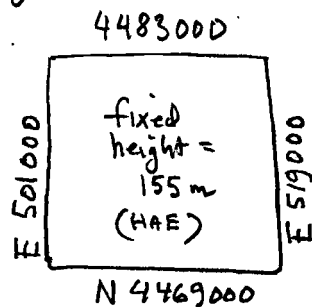$$\ell = \frac{P_1(\phi,\lambda,h)}{P_2(\phi,\lambda,h)} + a_0 + a_1\phi + a_2\lambda$$

$$S = \frac{P_3(\phi,\lambda,h)}{P_4(\phi,\lambda,h)} + b_0 + b_1\phi + b_2\lambda$$

confirm basic RPC projection works : $\phi,\lambda,h \rightarrow \ell, s$ you may use posted rpc2.mat

also do with only the a_0, b_0 parameters. If the 6 parameter is not significantly better than the 2 parameter model then use the 2 parameter model.

Use 14 GCP's from HW3 in Fall 2010, and use A1-A8, A11-A15, and A17 from "cpdoc.pdf". If a point is unclear, not visible, not on the image, or ambiguous, then leave it out. Make sure to show residuals & evaluation from the LS problem. Update: 4072 So. side of sidewalk, A3 disturbed

(2) Make simple rectification of the WV1 image using refined model above. Use extent given in UTM zone 16, meters :

```
            4483000
         ┌──────────┐
  E 501000│ fixed    │ E 519000
         │ height = │
         │ 155 m    │
         │ (HAE)    │
         └──────────┘
           N 4469000
```

Then use GSD of 4 m, use downsampled p001-8.jpg

submit writeup & evaluation, submit m-files & output image digitally on CD or memory stick, also submit ESRI world file for coordinate checking in ArcGIS.