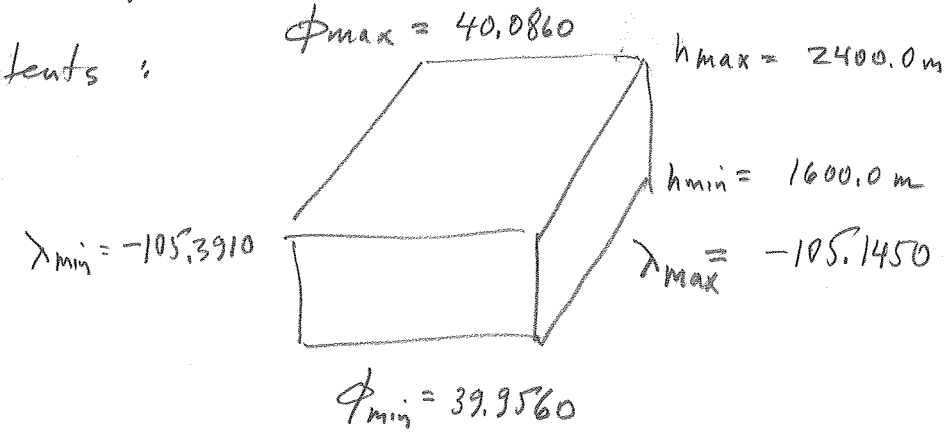
Satellite Photogrammetry HW4
(due Wed. 2 Apr.)

Confirm that your refined model agrees with instructor

1. the extents:



2. make a 10 x 10 x 5 grid (length, width, height) to generate 500 ϕ, λ, h data points.

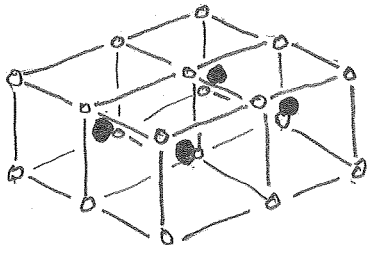
3. project into image to obtain corresponding 500 l, s pairs

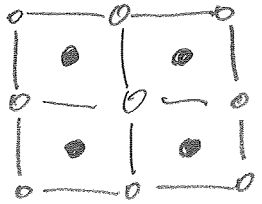
4. Make the <u>linear</u> regression for 78 parameters, use parameter definitions in the NITF document. Don't forget to scale and offset <u>prior</u> to regression. pseudo-inverse will be required.

$$V + Bx = f, \quad x = (B^T B)^{+} B^T f$$

$$V = f - Bx \quad (\text{verify} < 0.1 \text{ pixel})$$

5. verify results by comparing physical model $(l, s)_p$ and replacement model $(l, s)_r$ at points in centers of grid cubes:





$(< 0.5 \text{ pix})$