

# Homework #1

Given: 26 Sep. 2016; Due at 09:10AM 03 (Monday) Sep. 2016

1. Given a stereopair of Diaoyu Islands satellite imagery as follows, please locate the highest spot without 3D viewing. (Therefore you must explain how you find your answer. 40%)



2. Parameters of radial lens distortion of camera\_A are calibrated as follows:

$$K_1 = 6.107 \times 10^{-4} (1/mm^2); K_2 = -1.350 \times 10^{-6} (1/mm^4); K_3 = 0;$$

Given pixel size of  $11.8\mu m$ , please illustrate (圖解) the radial lens distortion on the image plane [size of  $1920(c) \times 1280(r)$ ] in the unit of pixel. In addition, find out the maximal and average distortions. (30%)

3. Elaborate on how base-height ratio affects photogrammetric intersection. (30%)