

# Weekly Report

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**Abstract**—This week I mainly put my effort on preparing SAR data and corresponding optical image for the contest.

## I. OPTICAL IMAGE

AFTER geocoding the SAR data, we get the corresponding coordinates. Then we can impose the SAR image on Google Earth, besides, Google Earth has the history images at the same time.

- To label the SAR image, we need to slice the original large SAR image to pieces. And we have to get corresponding optical image and slice it the same way. However, you can't export images directly from Google Earth, so this is a problem.
- I found one tool which can download Google Earth history images, but it requires about RMB 3,000 to activate. Finally, I found download services on Taobao, and bought corresponding optical image(8 GB) for RMB 40.

Fig. 1 is the SAR image. Fig. 2 is the optical image.

## II. IMAGE PREPROCESS

Since the optical image is relatively large(8 GB), I need to find some tools which can handle with it.

- I used to use PIL image lib to slice large images, yet it even didn't work for the SAR image(450 MB), so I turn to OpenCV and it worked for SAR image.
- However, OpenCV could only process image whose size is smaller than 2 GB, and after lots of trials, MATLAB works for the optical image(8 GB).
- So I upload sliced SAR images and optical images to Baidu Cloud, and wrote a tutorial to help undergraduates students label these images.

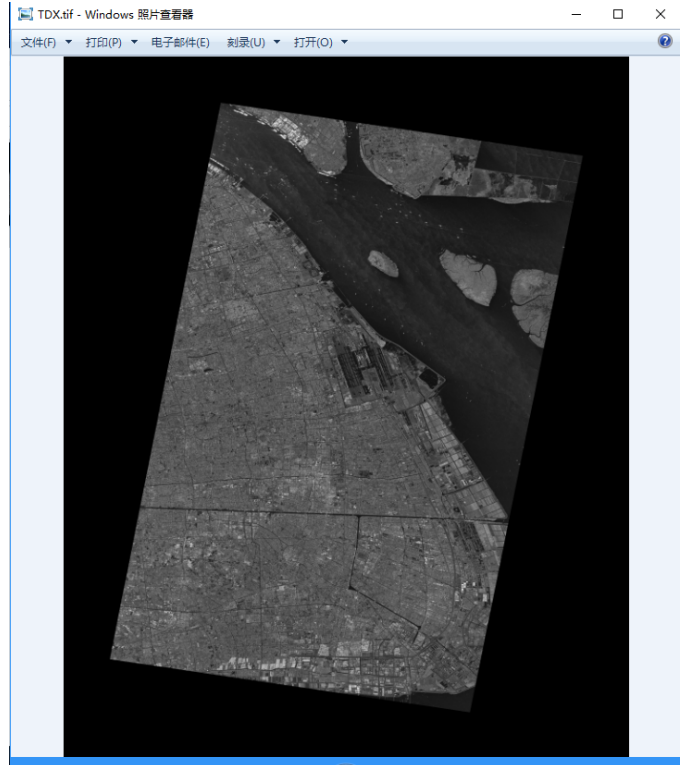


Fig. 1: SAR image(450 MB)

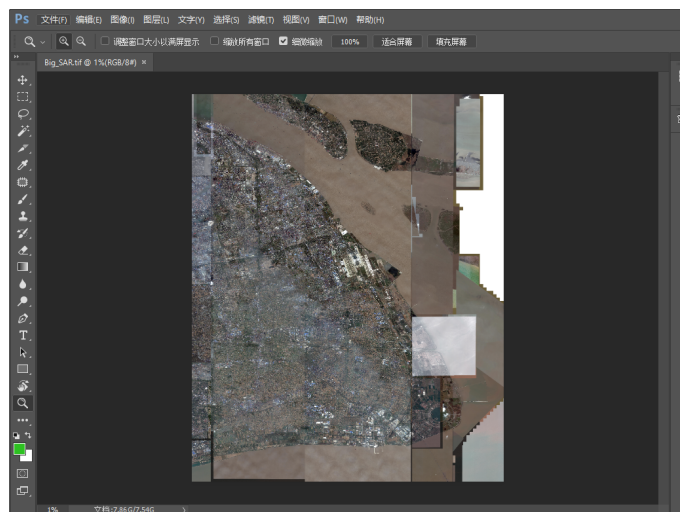


Fig. 2: Optical image(8 GB)