

SAR image formation, assigned Wed 20 Apr. 2011, due Fri 29 Apr.

1. get photo2-11-hw7.zip (source files, C-language)
2. get dat\_01.001 from ftp site (SAR phase history data, FRS-2)
3. put files in a folder where you have ~ 2GB free disk space (MS windows machine), edit constants \*
4. start MS visual studio (ITAP machines have it)
  - select VC++
  - tools tab
    - └ command prompt
      - └ H:
      - └ cd workfolder (or whatever you call it)
      - └ hmake -f focus7.mak
      - └ hmake -f cpx2raw3.mak
5. run focus7.exe followed by cpx2raw3.exe
6. open view7.raw in photoshop (w 5616, # ~~5624~~)
  - └ image
    - └ adjustments
      - └ auto levels
  - └ image
    - └ rotate canvas
      - └ flip horizontal
7. crop the region around Lafayette / West Lafayette
8. Turn in hard copy.

5264

\* constants :

|               |            |          |                                  |
|---------------|------------|----------|----------------------------------|
| pulse dur     | 3.71e-05   | (sec)    | } range<br>reference<br>function |
| rng-samp-rate | 1.896e+07  | (hz)     |                                  |
| chirp slope   | 4.1779e+11 | (hz/sec) |                                  |

near-range 829924.0 (m)

radar-wave length .0566666 (m)

sc-vel 7125.0 (m/s)

prf 1679.902394 hz

fdc \_\_\_\_\_ (hz) your value