Microwave Remote Sensing Lab (MRSLab), IIT Bombay

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SNAP GPT Processing

We use windows command prompt to call SNAP gpt.

User Guide:

- Save all processing graphs (.xml files) in a folder. Graphs can be downloaded from Github repository, and modify as per user requirement. Here, we show multi-date Sentinel-1 SLC data processing example with two dataset. Graphs are kept in G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\SNAP_GPFs directory

- Download Sentinel-1 SLC datasets from ESA Sci-hub or ASF repository in .zip format. Unzip them and extract as .SAFE format in designated folders.

Running GPT gpf xml codes from command line

1. Open Windows Command prompt
2. CD to Graph folder

```
cd G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\SNAP_GPFs
```

3. Run modiule-1 graph as:

```
>gpt module1_multi_date_mod.xml -
Pinput1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC__1S
DV_20180816T003055_20180816T003122_023264_02877A_8030.SAFE\man
ifest.safe -
Ptarget1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC__1
SDV_20180816_Orb_Cal.dim
```

Where -Pinput1 is input to the graph as Sentinel-1 SLC .SAFE product; -Ptarget1 is output product name with directory. Run this graph over two Sentinel-1 datasets individually. Just change –Pinput and –Ptarget accordingly.

4. Run module-2, which takes two input for coregistration, and writes the final product as target.

```
>gpt module2_multi_date_mod.xml -
Pinput1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC__1S
DV_20180711_Orb_Cal.dim -
Pinput2=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC__1S
DV_20180816_Orb_Cal.dim -
```

```
Ptarget1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC_20
180711_20180816_Orb_Cal_BackGeo_Deb.dim
```

5. Run module-3. It takes Coregistered product and process for C2 matrix generation, Speckle filtering and Geocoding.

```
>gpt module3_multi_date_mod.xml -
Pinput1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC_201
80711_20180816_Orb_Cal_BackGeo_Deb.dim -
Ptarget1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC_20
180711_20180816_Orb_Cal_BackGeo_Deb_ML_Spk_TC.dim
```

6. Now in the last module we need to split the data-stack based on dates and save them as BEAM-DIMAP format. First create a folder "`target`" within the `G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1` . Then rung the module as:

```
> gpt module4_multi_date_mod.xml -
Pinput1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\S1A_IW_SLC_201
80711_20180816_Orb_Cal_BackGeo_Deb_ML_Spk_TC.dim -
Ptarget1=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\target -
Ptarget2=G:\AWS\AWS_snappy_gpt\Vijayawada_2018S1\target\Splitp
roduct.dim
```

Resources:

1. SNAP Command Line Tutorial
   http://step.esa.int/docs/tutorials/SNAP_CommandLine_Tutorial.pdf