

Summer School in InSAR, time series processing and deformation modelling



Mass Processing:

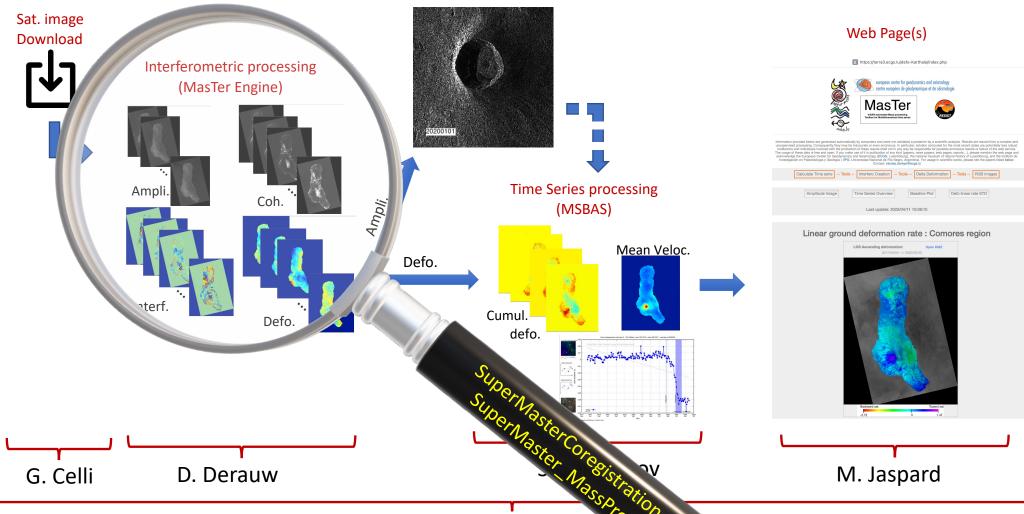
Baseline plot, Coregistration on a super master and DInSAR computation of all pairs.

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MasTer Toolbox







Mass Processing & Exercise 2



Plan: Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh
- Prepa_MSBAS.sh
- Dual criteria selection
- Manually add or remove pairs from automated list
- Note about old baseline plot tools

Coregistration on the Super Master:

- SuperMasterCoreg.sh
- SplitCoreg.sh

Mass Processing:

- SuperMaster MassProc.sh
- __SplitSession.sh

Additional information:

- Note about updated S1 orbits
- Verify_Mass_Process_Results.sh
- Re-geocode or re-unwrap

Hands-on exercice 2 with data on Domuyo - Laguna del Maule





Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh (must be run for each mode !):
 - Create a directory where to link all the images from the given mode to process, e.g. in .../1650/SAR_SM/MSBAS/YourRegion/seti where i is an index for each mode/sat of available data. In our case, YourRegion = ARGENTINE and i = 1-2
 - Although not mandatory, keep a note with all the modes for your convenience, e.g. in a file .../1650/SAR_SM/MSBAS/YourRegion/_Sets_description.txt that contains e.g.:

```
Description for Argentine processings:

set1 = S1 Domuyo & Laguna del Maule Asc 18
set2 = S1 Domuyo & Laguna del Maule Desc 83
set3 = SAOCOM Asc
set4 = ...
```

Syntax: in /set1 dir
Ins_All_Img.sh WhereDataAre/NoCrop WhereDataSet SAT
where WhereDataSet/NoCrop is e.g. \$PATH_1650/SAR_CSL/S1/ARG_DOMU_LAGUNA_A_18/NoCrop
WhereDataSet is e.g. \$PATH_1650/SAR_SM/MSBAS/ARGENTINE/set1
SAT is \$1

Do the same for Descending in /set2dir :

where WhereDataAre/NoCrop is e.g. \$PATH_1650/SAR_CSL/S1/ARG_DOMU_LAGUNA_D_83/NoCrop WhereDataSet is e.g. \$PATH_1650/SAR_SM/MSBAS/ARGENTINE/set2

SAT is S1

Note: for the sake of efficiency for the exercice, the provided CSL data only contains images.csl/Info + dir names





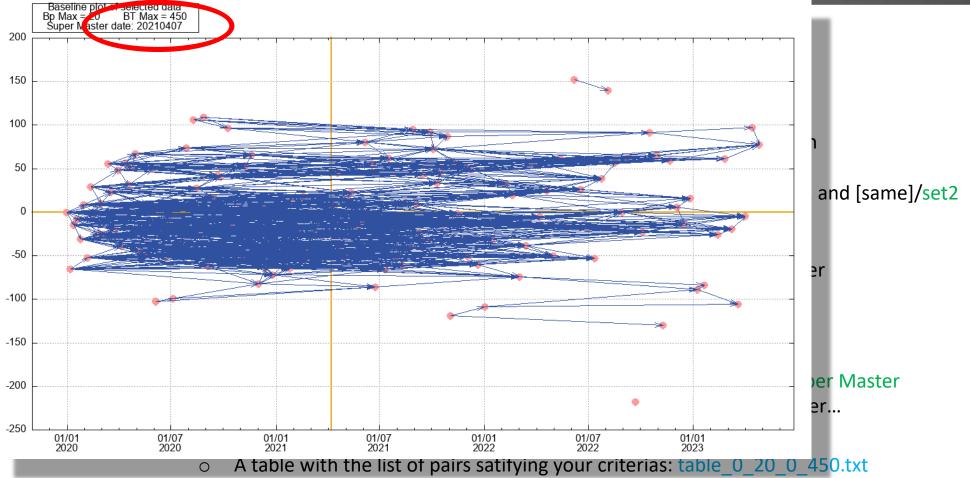
Building the baseline plot and selecting the Super Master:

- Ins All Img.sh
- **Prepa MSBAS.sh** (must be run for each mode!):
 - Because it is the first run, you do not have a Super Master yet. Hence run Prepa MSBAS.sh WhereDataSet BP BT where WhereDataSet is \$PATH 1650/SAR SM/MSBAS/ARGENTINE/set1 and [sam BP is e.g. 20 BT is e.g. 450 and answer y when it asks you if you want to compute a new Super Master
 - At second run, you do not want to recompute a Super Master, (because you would have to re-coregister all the images on the new SM then compute again all the Mass Processed pairs!). Hence, at next runs add a 4th parameter with the date of the former Super Master and answer n when it asks you if you want to compute a new Super Master...
 - In any case, you should end up with the following files:
 - A table with the list of pairs satisfying your criteria: table 0 20 0 450.txt

Master	Slave	Bperp	Delay	urces
20200101	20200113	-14	12	
20200101	20200119	-8	18	e
20200101	20200131	9	30	
20200101	20200218	-1	48	
20200101	20200301	11	60	
20200101	20200325	-19	84	
20200101	20200512	9	132	
20200101	20200524	10	144	_
20200101	20200611	3	162	
20200101	20200629	-9	180	
20200101	20200711	-18	192	
20200101	20200915	17	258	
20200101	20201015	-18	288	
20200101	20201027	3	300	
20200101	20201208	5	342	
20200101	20201220	-2	354	
20200101	20210119	-6	384	
20200101	20210131	11	396	
20200101	20210212	-19	408	
20200101	20210218	18	414	
20200101	20210302	-3	426	
20200101	20210320	-9	444	
20200107	20200206	13	30	
20200107	20200518	16	132	
20200107	20200623	15	168	
20200107	20200903	4	240	
20200107	20201021	19	288	
20200107	20201102	10	300	
20200107	20201126	10	324	
20200107	20201202	-16	330	
20200107	20201214	1	342	
20200107	20201226	-7	354	
20200107	20210107	15	366	
20200107	20210113	4	372	
20200107	20210125	1	384	
20200107	20210401	18	450	
20200113	20200119	7	6	
20200113	20200125	-16	12	





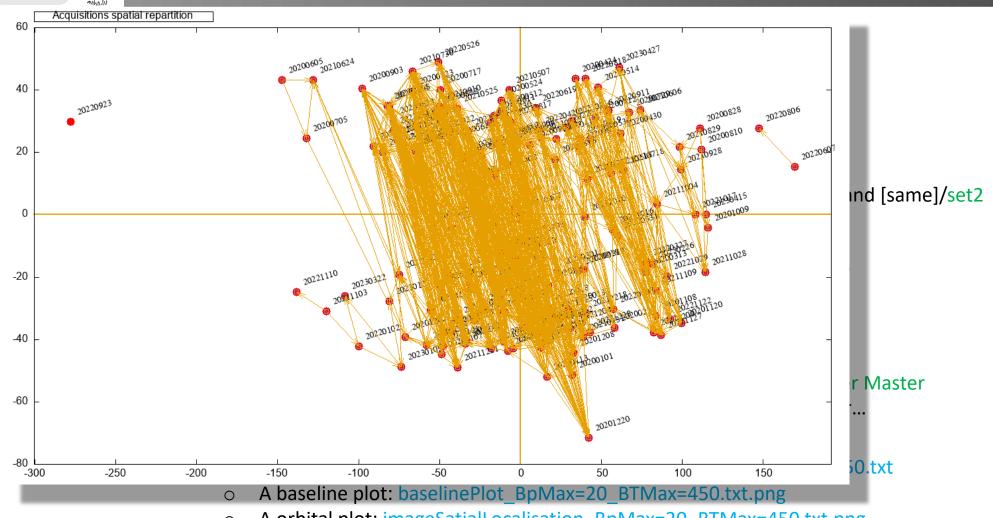


A baseline plot: baselinePlot_BpMax=20_BTMax=450.txt.png
 See in that plot the selected (or forced) SM for the subset of images satisfying the baselines criteria.

Note that the SM indicated in allPairsListing.txt is the one for the whole data set, not the selected pairs.







A orbital plot: imageSatialLocalisation_BpMax=20_BTMax=450.txt.png





/Volumes/1650	/SAR_SM/MSBAS/ARGEN	ITINE/set2								
										-
										-
Identified Supe	r Master: 20210407									-
Master date	. Slave date .	xm .	ym .	xs .	ys .	Вр0 .	Вр .	Dt .	На	
20200101	20200107	32.04	-51.39	-48.55	-44.75	-0.16	-65.26	6	215.67	
20200101	20200113	32.04	-51.39	16.42	-52.01	-0.16	-14.49	12	971.51	_
20200101	20200119	32.04	-51.39	15.50	-40.41	-0.16	-7.82	18	1799.51	
20200101	20200125	32.04	-51.39	-7.73	-43.75	-0.16	-30.76	24	457.61	
20200101	20200131	32.04	-51.39	29.91	-30.53	-0.16	9.13	30	-1541.15	
20200101	20200206	32.04	-51.39	-39.23	-33.72	-0.16	-51.82	36	271.59	1/
20200101	20200212	32.04	-51.39	58.04	-36.15	-0.16	29.46	42	-477.78	1/
20200101	20200218	32.04	-51.39	16.71	-29.48	-0.16	-1.07	48	13206.22	
20200101	20200224	32.04	-51.39	-9.47	-31.31	-0.16	-25.21	54	558.24	
20200101	20200301	32.04	-51.39	23.09	-18.23	-0.16	10.63	60	-1324.61	
20200101	20200307	32.04	-51.39	-14.90	-21.65	-0.16	-24.71	66	569.55	
20200101	20200313	32.04	-51.39	77.38	-18.29	-0.16	55.93	72	-251.64	
20200101	20200319	32.04	-51.39	38.93	-17.60	-0.16	23.81	78	-591.01	
20200101	20200325	32.04	-51.39	-10.52	-18.55	-0.16	-19.31	84	728.76	
20200101	20200331	32.04	-51.39	59.87	-6.53	-0.16	48.14	90	-292.34	
20200101	20200406	32.04	-51.39	-42.55	-4.04	-0.16	-38.81	96	362.63	
20200101	20200412	32.04	-51.39	46.44	31.20	-0.16	56.78	102	-247.87	
20200101	20200418	32.04	-51.39	22.26	24.24	-0.16	31.79	108	-442.76	
20200101	20200424	32.04	-51.39	34.14	43.69	-0.16	51.99	114	-270.72	
20200101	20200430	32.04	-51.39	62.05	26.03	-0.16	67.45	120	-208.66	
20200101	20200506	32.04	-51.39	-63.50	20.52	-0.16	-43.60	126	322.80	
20200101	20200512	32.04	-51.39	-11.66	33.28	-0.16	9.04	132	-1556.48	
20200101	20200518	32.04	-51.39	-72.30	22.00	-0.16	-49.12	138	286.50	
20200101	20200524	32.04	-51.39	-11.80	36.63	-0.16	9.61	144	-1463.89	
20200101	20200530	32.04	-51.39	43.26	24.22	-0.16	50.49	150	-278.76	
20200101	20200605	32.04	-51.39	-147.48	43.15	-0.16	-102.17	156	137.75	
20200101	20200611	32.04	-51.39	-16.26	31.75	-0.16	3.47	162	-4059.13	
20200101	20200617	32.04	-51.39	-42.17	23.13	-0.16	-23.90	168	588.82	
20200101	20200623	32.04	-51.39	-78.65	30.35	-0.16	-50.58	174	278.23	

A orbital plot: imageSatialLocalisation_BpMax=20_BTMax=450.txt.png

o A file with all the pairs and their characteristics: allPairsListing.txt





Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh
- Prepa_MSBAS.sh (must be run for each mode !):
 - Because it is the first run, you do not have a Super Master yet. Hence run Prepa_MSBAS.sh WhereDataSet BP BT where WhereDataSet is \$PATH_1650/SAR_SM/MSBAS/ARGENTINE/set1 and [same]/set2 BP is e.g. 20 BT is e.g. 450 and answer y when it ask you if you want to compute a new Super Master
 - At second run, you do not want to recompute a Super Master, (because you would have to re-coregister all the images on the new SM then compute again all the Mass Processed pairs!). Hence, at next runs add a 4th parameter with the date of the former Super Master and answer n when it ask you if you want to compute a new Super Master...
 - In any case, you should end up with the following files:
 - A table with the list of pairs satisfying your criterias: table_0_20_0_450.txt
 - A baseline plot: baselinePlot_BpMax=20_BTMax=450.txt.png
 - A orbital plot: imageSatialLocalisation_BpMax=20_BTMax=450.txt.png
 - A file with all the pairs and their characteristics: allPairsListing.txt
 - Plus some intermediate files & files to be compatible with old version of the tools to build the plot.





Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh
- Prepa_MSBAS.sh
- Dual criteria selection
 - If you need to increase the baseline criteria from a given date, e.g. when the orbital tube is suddenly degraded such as after the loss of S1-B, you may ask *Prepa_MSBAS.sh* to use a second set of criteria from a given date as follow:

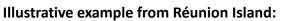
Prepa_MSBAS.sh WhereDataSet BP1 BT1 DATESM BP2 BT2 DATECHANGE

where

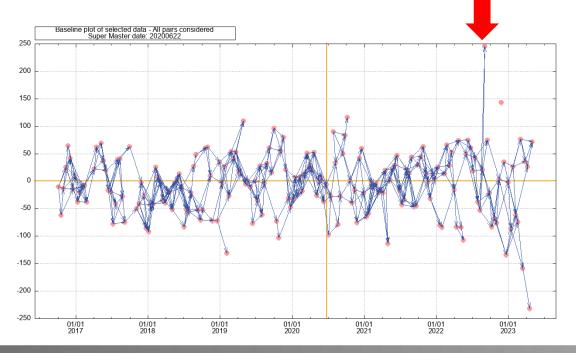
BP1 and BT1 are the baseline criteria for the first part of the time series DATESM is the date of the Super Master

BP2 and BT2 are the baseline criteria for the second part of the time series DATECHANGE is the date from which it should use

BP2 and BT2 to select the pairs

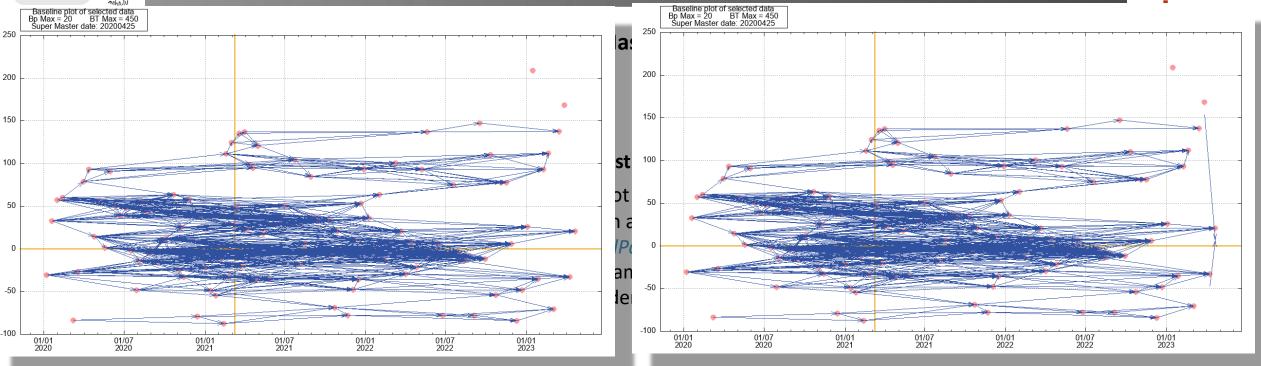


baseline Plot with BpMax=70 Before 20220501 then BpMax=90 After_20220501









These pairs will be added automatically to the baseline plot when running *Prepa_MSBAS.sh*. Test it e.g. by adding to set 1, the two pairs in *table_0_20_0_450_AdditionalPairs.txt* as follow:

20230329	20230422	147	24
20230410	20230422	53	12

(See also manual § 4.3)

Note a little bug (small offset to new pairs... see gnuplot file to sort it out)





Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh
- Prepa_MSBAS.sh
- Dual criteria selection
- Manually add or remove pairs from automated list
 - To add pairs to the baseline plot
 - To <u>remove pairs</u> from the baseline plot although they do fit the criteria, either:
 - Remove them from the desired list of pairs file.
 Ensure that the link selectedPairsListing.txt points toward that file, then re-run the gnuplot scripts:
 gnuplot baselinePlot.gnuplot (must be launched in in seti directory of course)
 - Or remove lines in the Table_Bmin_Bmax_Tmin_Tmax.txt file, Launch the script plotBaselines.sh.
 The plot will however be in another format and named span_FlatArrow_0_MaxBp_0_MaxBt.eps (see manual § 4.3)
 - Or do it when building time series data sets (see manual § 6.1a): add a file named
 _EXCLUDE_PAIRS_ALTHOUGH_CRITERIA_OK.txt in the directroy of the mode to invert using msbas
 (DefoInterpolx2Detrendi; see exercice 3), then run Exclude_Pairs_From_Mode.txt.sh, then
 PlotBaselineGeocMSBASmodeTXT.sh (see manual § 6.5).





Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh
- Prepa_MSBAS.sh
- Dual criteria selection
- Manually add or remove pairs from automated list
- Note about old baseline plot tools

For the sake of compatibility with former versions of MasTer, there are some old tools used to build baseline plots (*build_bperp_file.sh* and *plotBaselines.sh* - see manual §4.3).

These require files that are still prepared by *Prepa_MSBAS.sh* although they are not used by usual MasTer features. These files (stored in .../SAR_SM/MSBAS/*YourRegion*/set*i*) are e.g.:

- o span_0_MaxBp_0_MaxBt.txt
- Span1_0_MaxBp_0_MaxBt.txt
- Bperp_file.txt

They can be ignored most of the time except if for any reason you want to create baseline plots with these older tools (*plotBaselines.sh*)





Building the baseline plot and selecting the Super Master

Coregistration on the Super Master:

• SuperMasterCoreg.sh:

That step must always be run, though it will do different things depending on the satellite/mode:

- For all satellites/modes but S1 in IW, it coregisters (i.e. aligns) each image on the Super Master. Hence the script will:
 - First compute the DEM (and maybe the mask) if required in the slant range geometry of the Super Master,
 - Compute the affine transformation to coregister and resample each image in the slant range geometry of the Super Master.
- For Sentinel 1 in Wide Swath mode (IW), because of the TOPSAR acquisition principle, all the images of a given mode are already aligned. There is no need to coregister each image in the geometry of the Super Master and any image can be used as a master in its own slant range geometry. Hence the script will:
 - o compute the DEM (and maybe the mask) if required in the slant range geometry for each image.





Building the baseline plot and selecting the Super Master

Coregistration on the Super Master:

- SuperMasterCoreg.sh:
 - Syntax (see manual § 5.1)
 - **SuperMasterCoreg.sh** LaunchMTparam.txt [FORCE]
 - It will create a directory for each set where it will store the coregistration and resampling of each image to the SuperMaster. Its naming is as follow:
 - .../SAR_SM/SAR_RESAMPLED/SAT/REGION_TRACK/SMCrop_SM_DATESM_CROPNAME_
 - ➤ Notes:
 - The script is incremental: it processes only the images that are not coregistered yet.
 - It computes the DEM only if it does not exist yet.
 (For S1 IW, you can force to recompute the DEM for each image by adding FORCE as 2nd parameter).
 - It computes the mask only if required and if it does not exist yet.
 - Because for the sake of efficiency and security, SuperMasterCoreg.sh runs in a processing directory that is not the final one (cfr LaunchMTparam.txt), the script also runs RenamePathAfterMove.sh (and maybe RenamePath_Volumes.sh) after in order to set the final destination directory path in parameters files of each processed pairs (see manual § 5.1 notes).





Building the baseline plot and selecting the Super Master

Coregistration on the Super Master:

- SuperMasterCoreg.sh
- __SplitCoreg.sh

To speed up the coregistration processing, launch several **SuperMasterCoreg.sh** sessions in parallel in separate terminals using **__SplitCoreg.sh**.

The script must be provided with (see manual § 5.2):

- A list of images to coregister and to be split
- The LaunchMTparameters.txt file (with its full path) to be used
- The number of parallel sessions to process the coregistration
- o If FORCE is provided as 4th parameter (for <u>S1 images IW</u>), it will recompute the DEM for each image

Beware: hard coded lines must be tuned in the script for locating the discs where one can compute the different sessions.





Building the baseline plot and selecting the Super Master

Coregistration on the Super Master:

To practice, let's coregister few S1 –IW images for the region of Domuyo – Laguna del Maule

- Prepare a LaunchMTparam_S1_Arg_Domu_Laguna_D_83_Z1_ML8_MassProcess_Coreg.txt :
 - TRKDIR = ARG_DOMU_LAGUNA_D83_Tst_Coreg (because that is where the data are in .../SAR_CSL/S1)
 - SUPERMASTER = 20210407 (because that is what was discovered by *Prepa_MSBAS.sh*)
 - DEMNAME = NQNyMas (because that its name in DataSAR/SAR_AUX_FILES/DEM/SRTM30/ALL/)
 - CROP = CROPno & REGION = Domuyo_Laguna (or any other that makes sense to you)
 - INTERFML = 8
 - POWSPECSMOOTHFACT = 0 (because we are not interested in filtered interf. and it will spare time)
 - APPLYMASK = APPLYMASKno

And/or compare with provided DataSAR/SAR_AUX_FILES/Param_files_SuperMaster/S1/ARG_DOMU.../

LaunchMTparam_S1_Arg_Domu_Laguna_D_83_Z1_ML8_MassProcess_Coreg.txt

> run

SuperMasterCoreg.sh LaunchMTparam.txt FORCE

(FORCE = in case wrong DEM already exist in

SAR CSL/S1/ARG DOMU LAGUNA D83 Tst Coreg/NoCrop/img.csl/Data)





Building the baseline plot and selecting the Super Master

Coregistration on the Super Master:

To practice, let's coregister few S1 –IW images for the region of Domuyo – Laguna del Maule

- ➤ Prepare a LaunchMTparam S1 Arg Domu Laguna D 83 Z1 ML8 MassProcess Coreg.txt:
- > Run
- Check your results in

.../1650/SAR_SM/RESAMPLED/S1/ARG_DOMU_LAGUNA_D83_Tst_Coreg/SMNoCrop_SM20210427/pairs

and

.../1650/SAR_CSL/S1/ARG_DOMU_LAGUNA_D83_Tst_Coreg/NoCrop/images.csl/Data/externalSlantRangeDEM .../1650/SAR_CSL/S1/ARG_DOMU_LAGUNA_D83_Tst_Coreg/NoCrop/images.csl/Info/externalSlantRangeDEM.txt





Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

- SuperMaster_MassProc.sh
 - ➤ It will compute each <u>interferometric pairs</u> from a provided list in a directory .../PROCESS/CIS/SAT/<u>MAS_SLV</u>
 - ➤ It will then move them in the final destination directory, that is .../SAR_MASSPROCESS/SAT/REGION_TRACK/SMCrop_SM_DATESM_CROPNAME/
 - As soon as a pair is processed, it will also move the geocoded products in a Geocoded directory located in the final destination directory, in subdirectories named by their type:

```
.../SAR_MASSPROCESS/SAT/REGION_TRACK/SMCrop_SM_DATESM_CROPNAME/Geocoded/Ampli
/Coh
/Defo
/DefoInterpol
/DefoInterpolDetrend
/DefoInterpolx2Detrend
/InterfFilt
/InterfResid
/UnwrapPhase
```





Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

- SuperMaster MassProc.sh
 - Note that if the PROCESS directory is not on the same hard disc as the Geocoded directory, it will copy instead of move the pair directories and only erase them from PROCESS when all the pairs are processed and when it has confirmed that everything was copied to the final directory.

 This prevents loosing results in case of connection loss between discs.
 - In a similar way, it will copy the rasters (quicklook .ras) of the geocoded products in a GeocodedRasters directory located in the final destination directory, in subdirectories named by their type. These quicklooks also remain in the pair directories.
 - Syntax (see manual § 5.3)

SuperMaster_ MassProc.sh ListOfPairs LaunchMTparam.txt [-f or -list=filename]
where ListOfPairs is a list of pairs to process (see table_0_BP_0_BT.txt computed by Prepa_MSBAS.sh)
-f or -list=filename are optional to force a different type of list of pairs (see manual § 5.)





Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

- SuperMaster MassProc.sh
- SplitSession.sh

To speed up the mass processing, launch several **SuperMaster_MassProc.sh** sessions in parallel in separate terminals using **__SplitSession.sh**.

The script must be provided with (see manual § 5.4):

- A list of pairs to process and to be split (see table_0_BP_0_BT.txt computed by Prepa_MSBAS.sh)
- The LaunchMTparameters.txt file (with its full path) to be used
- The number of parallel sessions to process the DInSAR
- O A 4th parameter can be offered for undocumented option see script for explanations

Beware: hard coded lines must be tuned in the script for locating the discs where one can compute the different sessions.





Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

To practice, let's process few S1 – IW pairs for the region of Laguna del Maule

- Prepare a LaunchMTparam_S1_Arg_Domu_Laguna_D_83_Z1_ML8_MassProcess.txt :
 - TRKDIR = ARG_DOMU_LAGUNA_D83_Tst_Coreg (because that is where the data are in .../SAR_CSL/S1)
 - SUPERMASTER = 20210407 (because that is what was discovered by *Prepa_MSBAS.sh*)
 - DEMNAME = NQNyMas (because that its name in DataSAR/SAR_AUX_FILES/DEM/SRTM30/ALL/)
 - CROP = \$PATH_1650/kml/ARGENTINA/Lagunal_Maule.kml
 Remember: cropping a S1 IW needs a kml; any other needs coordinates. See manual §3.1, note 2) page 59!
 - REGION = Laguna_del_Maule (or any other that makes sense to you no white space nor fancy characters!)
 - INTERFML = 8
 - POWSPECSMOOTHFACT = 1 (because we are not interested in filtered interf. and it will spare time)
 - APPLYMASK = APPLYMASKno
 - SKIPUW = SKIPyes (Tio spare time...)

And/or compare with provided DataSAR/SAR_AUX_FILES/Param_files_SuperMaster/S1/ARG_DOMU.../

LaunchMTparam_S1_Arg_Domu_Laguna_D_83_Z1_ML8_MassProcess.txt





Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

To practice, let's process few S1 – IW pairs for the region of Laguna del Maule

- Prepare a LaunchMTparam_S1_Arg_Domu_Laguna_D_83_Z1_ML8_MassProcess.txt :
- > run

SuperMaster_MassProc.sh with the following parameters:

.../SAR_SM/MSBAS/ARGENTINE/set2/table_0_20_0_450_SAMPLE_FOR_TST.txt

LaunchMTparam_S1_Arg_Domu_Laguna_D_83_Z1_ML8_MassProcess.txt

→ OK? (~ 1 min for DEM + 25 min or with unwrapping)
See in .../SAR_MASSPROCESS/S1/...





Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

To practice, let's process few S1 – IW pairs for the region of Laguna del Maule

- ➤ What do you see at the Terminal?
 - Ask you to be sure...
 - Suggest to process 3 pairs
 - o Process (at least on the first run) to the DEM projection in Slant Range
 - Crash on first pair, as expected . Why?
 (also look in your PROCESS directory: what is wrong and why?)
 - See if it successfully <u>moved</u> everything to /SAR_MASSPROCESS/
 - Tells you everything is done...





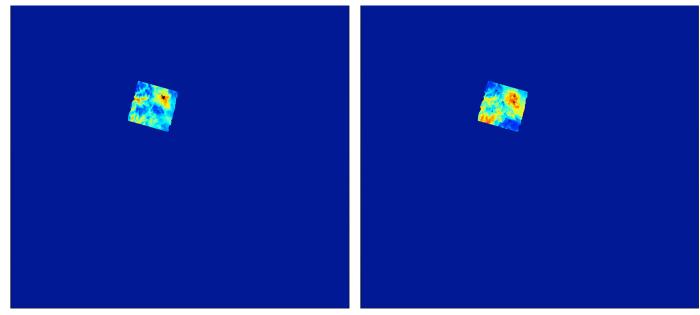
Building the baseline plot and selecting the Super Master Coregistration on the Super Master

Mass Processing:

To practice, let's process few S1 – IW pairs for the region of Laguna del Maule

Results: e.g. in

.../3601/SAR_MASSPROCESS/S1/ARG_DOMU_LAGUNA_D_83_Tst_Coreg/SMNoCrop_SM_20210407_Zoom1_ML8/GeocodedRasters/DefoInterpolx2Detrend



 $deformation Map. interpolated. I flattened. UTM. 50x 50. bil. interpolated_S1_ARG_DOMU_LAGUNA_D_83_Tst_Coreg-36. 2 deg_20210407_20210413_Bp8.903 m_HA-1720 m_BT6 days_Head 253. 6 deg. rasing the support of the properties of the$

 $deformation Map. interpolated. I lattened. UTM. 50x 50. bil. interpolated _S1_ARG_DOMU_LAGUNA_D_83_Tst_Coreg-36. 2 deg_20210407_20210507_Bp16.77m_HA-897.m_BT30 days_Head 253. 6 deg. ras$





Building the baseline plot and selecting the Super Master Coregistration on the Super Master Mass Processing

Additional information:

- Note about updated S1 orbits (See manual § 2)
 - When perform the reading of the data with Read_All_Img.sh, it will search of course if new images were made available
 - It also check if <u>updated orbits</u> were made available.
 (Note that it only checks for the most recent ones unless you added the parameter ForceAllYears.
 Also, it does not attempt to update the orbits at all if you added the parameter –n).
 - If orbits were updated, and if you have launched *Read_All_Img.sh* with the parameters /SAR_SM/RESAMPLED/ /SAR_MASSPROCESS/

it will move all products computed with the preliminary orbits into dedicated directories:

```
/SAR_SM/RESAMPLED/S1_CLN
/SAR_MASSPROCESS/S1_CLN
```

Hence, next time you run a *SuperMasterCoreg.sh* and/or *SuperMaster_MassProc.sh*, it will recompute these products with the updated orbits.

Do not forget to flush these S1_CLN directories on a regular basis to avoid overloading your hard disks.





Building the baseline plot and selecting the Super Master Coregistration on the Super Master Mass Processing

Additional information:

Verify_Mass_Process_Results.sh (see manual § 5.6):

When you are done with a mass processing, you may wonder if everything is OK. Or you may face problem at the time series inversion because some deformation data are missing or corrupted.

To assist you to identify where it could have been going wrong, you can run the script **Verify_Mass_Process_Results.sh** with the following 2 parameters:

PairsFile.txt (path to file with the list of compatible pairs, i.e.

.../SAR_SM/MSBAS/REGION/seti/table_0_MaxBp_0_MaxBt.txt)

MASSPROCESSINGPATH (path to where geocoded products are stored, i.e.

.../SAR_MASSPROCESS/SAT/TRACK/CROP_SM_DATE_ZOOM_ML/Geocoded)

It will check if all pairs are processed and each geocoded product is stored as expected in /Geocoded.... Missing products will be listed in files.

It will also offer to clean incoherent occurrence of files and pair directories (beware...).





Building the baseline plot and selecting the Super Master Coregistration on the Super Master Mass Processing

Additional information:

- Re-geocode or re-unwrap a list of pairs in SAR_MASSPROCESS (see manual § 8.5)
 - If results were moved from PROCESS to SAR_MASSPROCESS, first run in .../SAR_MASSPROCESS/SAT/TRACK/CROP_SM_DATE_ZOOM_ML the script RenamePathAfterMove_in_SAR_MASSPROC.sh SAT
 - In the same directory, run ReUnwrap_fromList.sh with a list of pairs to reprocess in one column, as MAS_SLV dates (or S1 names) and the parameters file for that re-run.
 Test it for instance by changing the parameter ZONEMAP as ZoneMapYes.
 - In the same directory, run *ReGeocode_fromList.sh* with a list of pairs to reprocess in one column, as *MAS_SLV* dates (or S1 names) and a parameters file for that re-run. Note that the list of products to re-geocode is hard coded in the script, as well as the option to recompute the raster figures. You can change all that...





Building the baseline plot and selecting the Super Master:

- Ins_All_Img.sh
- Prepa_MSBAS.sh
- Dual criteria selection
- Manually add or remove pairs from automated list
- Note about old baseline plot tools

Coregistration on the Super Master:

- SuperMasterCoreg.sh
- __SplitCoreg.sh

Mass Processing:

- SuperMaster_MassProc.sh
- SplitSession.sh

Additional information:

- Note about updated S1 orbits
- Verify_Mass_Process_Results.sh
- Re-geocode or re-unwrap

