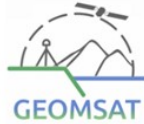


Izvješće uz aktivnost

## A1.5 Podizanje operativnog sustava i svih znanstvenih programa na radnoj stanici (M04-M05)

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Istraživački projekt | IP-01-2018-8944 | GEOMSAT

Istraživanje recentnih regionalnih i lokalnih geodinamičkih procesa na području Republike Hrvatske primjenom suvremenih satelitskih geodetskih metoda

### Rezultat D1.5: Izrađeni prvi izvještaji na testnom setu podataka

Na radnoj stanici instaliran je Linux Ubuntu operativni sustav. Za obradu satelitskih radarskih snimaka instalirani su znanstveni programi: InSAR Scientific Computing Environment (ISCE), Stanford method for persistent Scatterers/Multi Temporal InSAR (StaMPS/MTI), Geodetic Bayesian Inversion Software (GBIS), Statistical-Cost, Network-Flow Algorithm for Phase Unwrapping (SNAPHU), Toolbox for Reducing Atmospheric InSAR Noise (TRAIN), Python 2.0 i 3.0, Matlab.

- Prilog 1. Izvješće o instalaciji programa InSAR Scientific Computing Environment (ISCE)
- Prilog 2. Izvješće o instalaciji programa Stanford method for persistent Scatterers/Multi Temporal InSAR (StaMPS/MTI)
- Prilog 3. Izvješće o instalaciji programa Toolbox for Reducing Atmospheric InSAR Noise (TRAIN)
- Prilog 4. Izvješće o instaliranim programima na radnoj stanici

Dr. sc. Marin Govorčin (suradnik) izradio je prve interferograme u programu InSAR Scientific Computing Environment (ISCE) primjenom metode InSAR i relociranih potresa u epicentralnom području potresa iz 1996. godine na testnom skupu podataka Ston – Slano.

- Prilog 5. Interferogram izrađen iz testnog skupa podataka

Time je uspostavljena osnova na radnoj stanici za obradu i analizu geodetskih podataka (GNSS i MT-InSAR) koji će se prikupljati u sljedećim mjesecima projekta.

# Prilog 1. Izvješće o instalaciji programa InSAR Scientific Computing Environment (ISCE)

isce\_log.txt

Type AmpImage: constructor requires no arguments

Type Attitude: constructor requires no arguments

Type Correct: constructor requires no arguments

Type Correct\_geoid\_i2\_srtm: constructor requires no arguments

Type DataManager: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
0	str	positional	True	dem1 dem2 wbd	None

Type DataRetriever: constructor requires no arguments

Type DataTileManager: constructor requires no arguments

Type DemImage: constructor requires no arguments

Type DemStitcher: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
type	str	keyword	False	version2 version3	version3

Type DemsStitcher: constructor requires no arguments

Type DopIQ: constructor requires no arguments

Type Doppler: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
doppler	str	keyword	True	USEDOPPIQ USECALCDOP USEDOPPLER USEDEFAULT	Not set

Type FormSLC: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
sensor	str	keyword	False	None uavsar terrasarx cosmo_skymed_slc radarsat2 sentinel1a tandemx kompsat5 risat1_slc alos2 ers_slc alos_slc envisat_slc	None

Type GRDSensor: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
sensor	str	keyword	True	SENTINEL1 RADARSAT2 TERRASARX	Not set

Type Image: constructor requires no arguments

Type ImageCoordinate: constructor requires no arguments

Type Insar: constructor requires no arguments

Type IntImage: constructor requires no arguments

Type OffsetImage: constructor requires no arguments

Type Orbit: constructor requires no arguments

Type RawIQImage: constructor requires no arguments

Type RawImage: constructor requires no arguments

Type Resamp: constructor requires no arguments

Type Resamp\_image: constructor requires no arguments

Type RgImage: constructor requires no arguments

Type SWBDStitcher: constructor requires no arguments

Type ScanSARSensor: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
sensor	str	keyword	True	ALOS2	Not set

Type Sensor: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
sensor	str	keyword	True	ALOS ALOS_SLC ALOS2 COSMO_SKYMED COSMO_SKYMED_SLC ENVISAT ERS ERS_SLC KOMPSAT5 RADARSAT1 RADARSAT2 ROI_PAC TERRASARX RISAT1 RISAT1_SLC UAVSAR_RPI UAVSAR_STACK UAVSAR_POLSAR SENTINEL1 ENVISAT_SLC ERS_ENVISAT ERS_ENVISAT_SLC	Not set

Type SlcImage: constructor requires no arguments

Type Snaphu: constructor requires no arguments

Type Stitcher: constructor requires no arguments

Type StreamImage: constructor requires no arguments

Type TOPSSensor: Constructor requires arguments described in the table below. Use the -a option with the mandatory arguments to ask for more help. Run iscehelp.py -h for more info on the -a option.

name	type	argtype	mandatory	values	default
------	------	---------	-----------	--------	---------

```

=====
sensor          str          keyword    True          SENTINEL1      Not set

```

Type Topo: constructor requires no arguments

Type UnwImage: constructor requires no arguments

Type UnwrapComp: constructor requires no arguments

Type WbdsStitcher: constructor requires no arguments

## isce\_log1.txt

```

2019-09-18 14:44:00,209 - isce.insar - INFO - ISCE VERSION = 2.2.0,
RELEASE_SVN_REVISION = 2497,RELEASE_DATE = 20180714, CURRENT_SVN_REVISION = Unknown
ISCE VERSION = 2.2.0, RELEASE_SVN_REVISION = 2497,RELEASE_DATE = 20180714,
CURRENT_SVN_REVISION = Unknown

```

### Insar Application:

Implements InSAR processing flow for a pair of scenes from sensor raw data to geocoded, flattened interferograms.

The currently supported sensors are: ['ALOS', 'ALOS2', 'ALOS\_SLC', 'COSMO\_SKYMED', 'COSMO\_SKYMED\_SLC', 'ENVISAT', 'ENVISAT\_SLC', 'ERS', 'ERS\_ENVISAT', 'ERS\_ENVISAT\_SLC', 'ERS\_SLC', 'KOMPSAT5', 'RADARSAT1', 'RADARSAT2', 'RISAT1', 'RISAT1\_SLC', 'ROI\_PAC', 'SENTINEL1', 'TERRASARX', 'UAVSAR\_POLSAR', 'UAVSAR\_RPI', 'UAVSAR\_STACK']

### Usages:

```

stripmapApp.py <input-file.xml>
stripmapApp.py --steps
stripmapApp.py --help
stripmapApp.py --help --steps

```

See the table of configurable parameters listed below for a list of parameters that may be specified in the input file. See example input xml files in the isce 'examples' directory. Read about the input file in the ISCE.pdf document.

The user configurable inputs are given in the following table. Those inputs that are of type 'component' are also listed in table of facilities below with additional information. To configure the parameters, enter the desired value in the input file using a property tag with name = to the name given in the table.

name	type	mandatory	doc
azimuthlooks	int	False	Number of azimuth looks
correlation_method	str	False	Select coherence estimation method: cchz=cchz_wave

demfilename	str	False	phase_gradient=phase gradient
demstitcher	component	False	Filename of the DEM init file
densesearchheight	int	False	Object that based on the frame bounding boxes creates a DEM
densesearchwidth	int	False	N/A
denseskipheight	int	False	N/A
denseskipwidth	int	False	N/A
densewindowheight	int	False	N/A
densewindowwidth	int	False	N/A
dispersivefiltercoherencethreshold	float	False	Coherence threshold to generate a mask file which gets used in the iterative filtering of the dispersive and non-disperive phase
dispersivefilterkernelrotation	float	False	kernel rotation angle for the Gaussian low-pass filtering of the dispersive and non-disperive phase
dispersivefilterkernelsigma_x	float	False	kernel sigma_x for the Gaussian low-pass filtering of the dispersive and non-disperive phase
dispersivefilterkernelsigma_y	float	False	kernel sigma_y for the Gaussian low-pass filtering of the dispersive and non-disperive phase
dispersivefilterkernelx-size	float	False	kernel x-size for the Gaussian low-pass filtering of the dispersive and non-disperive phase
dispersivefilterkernely-size	float	False	kernel y-size for the Gaussian low-pass filtering of the dispersive and non-disperive phase
dispersivefiltermasktype	str	False	The type of mask for the iterative low-pass filtering of the estimated dispersive phase. If method is coherence, then a mask based on coherence files of low-band and sub-band interferograms is generated using the mask coherence thresold which can be also setup. If method is connected_components, then mask is formed based on connected component files with non zero values. If method is phase, then pixels with zero phase values in unwrapped sub-band interferograms are masked out.
dispersivefilternumberofiterations	int	False	number of iterations for the iterative low-pass filtering

				of the dispersive and non-dispersive phase
dodenseoffsets	bool	False		N/A
dodispersive	bool	False		N/A
dorubbersheeting	bool	False		N/A
dosplitspectrum	bool	False		N/A
dounwrap	bool	False		True if unwrapping is desired. To be used in combination with UNWRAPPER_NAME.
dounwrap2stage	bool	False		True if unwrapping is desired. To be used in combination with UNWRAPPER_NAME.
family	str	False		Instance family name
filterstrength	float	False		N/A
geocodeboundingbox	float	False		Bounding box for geocoding - South, North, West, East in degrees
geocodelist	str	False		List of products to geocode.
geoposting	float	False		Output posting for geocoded images in degrees (latitude = longitude)
heightrange	float	False		Altitude range in scene for cropping
insar	component	False		InsarProc object
master	component	False		Master raw data component
masterdopplermethod	str	False		Doppler calculation method. Choices: 'useDOPIQ', 'useDefault'.
mastersensorname	str	True		Master sensor name if mixing sensors
name	str	False		Instance name
offsetgeocodelist	type	False		List of offset-specific files to geocode
pickledumpdirectory	str	False		If steps is used, the directory in which to store pickle objects.
pickleloaddirectory	str	False		If steps is used, the directory from which to retrieve pickle objects.
posting	int	False		posting for interferogram
rangelooks	int	False		Number of range looks
regionofinterest	float	False		Region of interest - South, North, West, East in degrees
renderer	str	True		Format in which the data is serialized when using steps. Options are xml (default) or pickle.
rubbersheetfiltersize	int	False		N/A
rubbersheetsnrthreshold	float	False		N/A
rununwrapper	component	False		Unwrapping module
rununwrapper2stage	component	False		Unwrapping module
sensorname	str	False		Sensor name for both master and slave
slave	component	False		Slave raw data component
slavedopplermethod	str	False		Doppler calculation method.

Parameter Name	Type	Default	Description
slavesensorname	str	True	Slave sensor name if mixing sensors
solver_2stage	str	False	Linear Programming Solver for 2Stage; Options: pulp, gurobi, glpk; Used only for Redundant Arcs
unwrapper2stagename	str	False	2 Stage Unwrapping method to use. Available: MCF, REDARC0, REDARC1, REDARC2
unwrappername	str	False	Unwrapping method to use. To be used in combination with UNWRAP.
usehighresolutiondemonly	int	False	If True and a dem is not specified in input, it will only download the SRTM highest resolution dem if it is available and fill the missing portion with null values (typically -32767).

The configurable facilities are given in the following table. Enter the component parameter values for any of these facilities in the input file using a component tag with name = to the name given in the table. The configurable parameters for a facility are entered with property tags inside the component tag. Examples of the configurable parameters are available in the examples/inputs directory. For more help on a given facility run `iscehelp.py -t type` where type (if available) is the second entry in the table

name	type
demstitcher	DataManager
insar	N/A
master	GRDSensor
rununwrapper	N/A
rununwrapper2stage	N/A
slave	GRDSensor

isce\_log1.txt

```
2019-09-18 14:44:13,554 - isce.insar - INFO - ISCE VERSION = 2.2.0,
RELEASE_SVN_REVISION = 2497,RELEASE_DATE = 20180714, CURRENT_SVN_REVISION =
Unknown
ISCE VERSION = 2.2.0, RELEASE_SVN_REVISION = 2497,RELEASE_DATE = 20180714,
CURRENT_SVN_REVISION = Unknown
None
```



The currently supported sensors are: ['SENTINEL1']

Usages:

```
topsApp.py <input-file.xml>
topsApp.py --steps
topsApp.py --help
topsApp.py --help --steps
```

See the table of configurable parameters listed below for a list of parameters that may be specified in the input file. See example input xml files in the isce 'examples' directory. Read about the input file in the ISCE.pdf document.

The user configurable inputs are given in the following table. Those inputs that are of type 'component' are also listed in table of facilities below with additional information. To configure the parameters, enter the desired value in the input file using a property tag with name = to the name given in the table.

name	type	mandatory	doc
ampcormargin	int	False	Ampcor margin offset. Used in runDenseOffsets.
ampcoroversamplingfactor	int	False	Ampcor oversampling factor. Used in runDenseOffsets.
ampcorsearchwindowheight	int	False	Ampcor search window size height. Used in runDenseOffsets.
ampcorsearchwindowwidth	int	False	Ampcor search window size width. Used in runDenseOffsets.
ampcorskipheight	int	False	Ampcor skip down height. Used in runDenseOffsets.
ampcorskipwidth	int	False	Ampcor skip across width. Used in runDenseOffsets.
ampcorwindowheight	int	False	Ampcor main window size height. Used in runDenseOffsets.
ampcorwindowwidth	int	False	Ampcor main window size width. Used in runDenseOffsets.
azimuthlooks	int	False	N/A
azimuthshift	int	False	Ampcor gross offset down. Used in runDenseOffsets.

demfilename	str	False	Filename of the Digital Elevation Model (DEM)
demstitcher frame	component	False	Object that based on the bounding boxes creates a
DEM			
dodenseoffsets	bool	False	Perform dense offset estimation
doesd	bool	False	Perform ESD estimation
dointerferogram to	bool	False	Perform interferometry. Set false to skip insar steps.
dounwrap desired.	bool	False	True if unwrapping is
dounwrap2stage desired.	bool	False	To be used in combination with UNWRAPPER_NAME. True if unwrapping is
esdazimuthlooks	int	False	To be used in combination with UNWRAPPER_NAME. Number of azimuth looks for overlap IFGs
esdcoherencethreshold	float	False	ESD coherence threshold
esdrangelooks	int	False	Number of range looks for overlap IFGs
extraesdcycles interpret	float	False	Extra ESD cycles to overlap phase
family	str	False	Instance family name
filternullfactor	float	False	NULL factor to use in filtering offset fields to avoid numpy type issues.
filterstrength	float	False	N/A
filterwindowsize	int	False	Window size for
median_filter.			
geocodeboundingbox	float	False	Bounding box for geocoding
-			South, North, West, East in degrees
geocodedemfilename	str	False	Filename of the DEM for geocoding
geocodelist	str	False	List of products to
geocode.			
master	component	True	Master raw data component
name	str	False	Instance name
offsetgeocodelist	str	False	List of offset-specific
files			to geocode.
offsetsnrthreshold	float	False	Offset SNR threshold
pickledumpdirectory	str	False	If steps is used, the

pickleloaddir	str	False	directory in which to store pickle objects. If steps is used, the directory from which to retrieve pickle objects.
rangelooks	int	False	N/A
rangeshift	int	False	Ampcor gross offset across. Used in runDenseOffsets.
regionofinterest	float	False	User defined area to crop
in			
renderer	str	True	SNWE Format in which the data is serialized when using
steps.			
or			Options are xml (default)
rununwrapper	component	False	pickle. Unwrapping module
rununwrapper2stage	component	False	Unwrapping module
sensorname	str	True	Sensor name
slave	component	True	Slave raw data component
snrthresholdfactor	float	False	SNR Threshold factor used
in			
solver_2stage	str	False	filtering offset field objects. Linear Programming Solver
for			
gurobi,			2Stage; Options: pulp,
Redundant			glpk; Used only for
swaths	int	False	Arcs
topsproc	component	False	Swaths to process
unwrapper2stagenameto	str	False	TopsProc object
REDARC0,			2 Stage Unwrapping method
unwrappername	str	False	use. Available: MCF,
To			REDARC1, REDARC2
usegpu	bool	False	Unwrapping method to use.
usehighresolutiondemonly	int	False	be used in combination with UNWRAP.
highest			Allow App to use GPU when available
			If True and a dem is not specified in input, it will only download the SRTM
			resolution dem if it is

missing			available and fill the
			portion with null values
			(typically -32767).
usevirtualfiles	bool	False	Use virtual files when
			possible to save space

The configurable facilities are given in the following table. Enter the component parameter values for any of these facilities in the input file using a component tag with name = to the name given in the table. The configurable parameters for a facility are entered with property tags inside the component tag. Examples of the configurable parameters are available in the examples/inputs directory. For more help on a given facility run `iscehelp.py -t type` where type (if available) is the second entry in the table

name	type
=====	=====
demstitcher	DataManager
master	GRDSensor
rununwrapper	N/A
rununwrapper2stage	N/A
slave	GRDSensor
topsproc	N/A

## Prilog 2. Izvješće o instalaciji programa Stanford method for persistent Scatterers/Multi Temporal InSAR (StaMPS/MTI)

STAMPS.txt

```
18-Sep-2019 14:45:01 STAMPS
#####
18-Sep-2019 14:45:02 STAMPS          ##### StaMPS/MTI Version 4.0b6
#####
18-Sep-2019 14:45:02 STAMPS          ##### Beta version, Jun 2018
#####
18-Sep-2019 14:45:02 STAMPS
#####
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT max_topo_err = 20
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT quick_est_gamma_flag = y
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT select_reest_gamma_flag = y
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT filter_grid_size = 50
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT filter_weighting = P-square
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT gamma_change_convergence = 0.005
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT gamma_max_iterations = 3
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT slc_osf = 1
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT clap_win = 32
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT clap_low_pass_wavelength = 800
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT clap_alpha = 1
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT clap_beta = 0.3
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT select_method = DENSITY
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT density_rand = 20
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT percent_rand = 20
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT gamma_stdev_reject = 0
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT weed_time_win = 730
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT weed_max_noise = Inf
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT weed_standard_dev = 1
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT weed_zero_elevation = n
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT weed_neighbours = n
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_method = 3D
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_patch_phase = n
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT drop_ifg_index = []
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_la_error_flag = y
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_spatial_cost_func_flag = n
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_prefilter_flag = y
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_grid_size = 200
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_gold_n_win = 32
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_alpha = 8
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_time_win = 730
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_gold_alpha = 0.8
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT unwrap_hold_good_values = n
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT scla_drop_index = []
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT scn_wavelength = 100
18-Sep-2019 14:45:02 PS_PARAMS_DEFAULT scn_time_win = 365
```

```
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT scn_deramp_ifg = []
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT scn_kriging_flag = n
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT ref_lon = -Inf Inf
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT ref_lat = -Inf Inf
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT ref_centre_lonlat = 0 0
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT ref_radius = Inf
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT ref_velocity = 0
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT n_cores = 1
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT plot_dem_posting = 90
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT plot_scatterer_size = 120
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT plot_pixels_scatterer = 3
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT plot_color_scheme = inflation
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT shade_rel_angle = 90 45
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT lonlat_offset = 0 0
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT merge_resample_size = 0
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT merge_standard_dev = Inf
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT scla_method = L2
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT scla_deramp = n
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT lambda = NaN
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT heading = NaN
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT insar_processor = doris
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT subtr_tropo = n
18-Sep-2019 14:45:02 PS_PARMS_DEFAULT tropo_method = a_1
18-Sep-2019 14:45:02 STAMPS Will process current directory only
18-Sep-2019 14:45:02 STAMPS Finished
```

### Prilog 3. Izvješće o instalaciji programa Toolbox for Reducing Atmospheric InSAR Noise (TRAIN)

#### TRAIN.txt

```
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS stamps_processed = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_data = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_dir =
/home/mgovorcin/Installation_dir/sounding_data
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_time_stamp = [00; 12]
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_start_date = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_end_date = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_h0 = 0
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_error_promp = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_h_alpha_thres = 4
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_months = 1
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_ifg_dates = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS sounding_sensitivity = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS lambda = 0.0562
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS look_angle = 0.36652
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS heading = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS UTC_sat = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS non_defo_flag = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS region_res = 0.008333
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS region_lon_range = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS region_lat_range = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS demfile =
/home/mgovorcin/Installation_dir/dummy.dem
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS spectrometer_scaleheight = 8340
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS spectrometer_PIconversion = 6.2
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS dem_null = -32768
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS meris_perc_coverage = 80
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS meris_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS modis_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS modis_calibration = 0.95
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS modis_recalibrated = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS era_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS era_data_type = ECMWF
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS gacos_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS merra_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS narr_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS wrf_datapath = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_DEM_corr = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_h0 = 10
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_n_patches = 50
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_alpha = 1.6
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_xy_res = 30 30
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_patch_overlap = 50
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_all_bands = y
```

```
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_spatial_bands = [2000 4000;
4000 8000; 8000 16000; 16000 32000; 32000 64000; 64000 128000]
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_ridge_constraint = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_kept = 0
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS powerlaw_plane_mode = y
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS crop_flag = n
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS ifgday_matfile = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS save_folder_name = aps_estimation
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS drop_ifg_index = []
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS phuw_matfile =
/home/mgovorcin/Installation_dir/phuw.mat
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS hgt_matfile =
/home/mgovorcin/Installation_dir/hgt.mat
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS ll_matfile =
/home/mgovorcin/Installation_dir/ll.mat
18-Sep-2019 14:46:07 PARMS_DEFAULT_APS bperp_matfile =
/home/mgovorcin/Installation_dir/bperp.mat
```



## Prilog 4. Izvješće o instaliranim programima na radnoj stanici

software.txt

```
/home/mgovorcin/Installation_dir/conda  
/home/mgovorcin/Installation_dir/getorb  
/home/mgovorcin/Installation_dir/isce  
/home/mgovorcin/Installation_dir/Manuals  
/home/mgovorcin/Installation_dir/modeling  
/home/mgovorcin/Installation_dir/orbits  
/home/mgovorcin/Installation_dir/snaphu  
/home/mgovorcin/Installation_dir/stamps  
/home/mgovorcin/Installation_dir/train  
/home/mgovorcin/Installation_dir/triangle
```

Prilog 5. Interferogram izrađen iz testnog skupa podataka

