

BELARE 2017

Notebook: fjpattyn's notebook
Created: 01/12/2017 19:02
Author: Frank Pattyn

Updated: 19/12/2017 17:50

BELARE 2017

FranKenny ice rise field work BELARE 2017

Notes from the field on data collection and preliminary processing.
for processing of GNSS data, download and convert the data from the instrument (via web interface) as RINEX 3.00 (observations and all ephemeris)

01.12.2017

Test profile from camp to West (1 km)

Files: ICI____008.DZT

Directory: BELARE2017/gssi/ICI.PRJ

GNSS files:

Base station: BELARE2017/GNSS/011217_FKtest/61733350A.T02

Rover: BELARE2017/GNSS/011217_FKtest/02783350.T02

Base station: antenna base 168.00 cm above snow surface. This is alu pole + length of red antenna adaptor in box ULB1.

Skidoo antenna height: 157 cm above surface.

04.12.2017

Radar profiles across lake upstream of grounding line RBIS (Stef's lake)

Files: ICI____009.DZT to ICI____016.DZT

Directory: BELARE2017/gssi/ICI.PRJ

GNSS files:

Base station: BELARE2017/GNSS/041217_LakeStefGL/61733381A.T02

Rover: BELARE2017/GNSS/041217_LakeStefGL/02783380.T02

05.12.2017

Radar profile between FKdrill and FKAWS2

Files: ICI____017.DZT to ICI____026.DZT

Directory: BELARE2017/gssi/ICI.PRJ

GNSS files:

Base station: BELARE2017/GNSS/051217_FKdrill2FKAWS2/61733391A.T02

Rover: BELARE2017/GNSS/051217_FKdrill2FKAWS2/02783391.T02

08.12.2017

Radar profile between FKdrill and FKAWS1

Files: ICI____027.DZT to ICI____038.DZT

Directory: BELARE2017/gssi/ICI.PRJ

GNSS files:

Base station: BELARE2017/GNSS/081217_FKdrill2FPAWS1/61733421A.T02

Rover: BELARE2017/GNSS/081217_FKdrill2FPAWS1/02783420.T02

10.12.2017

Strain network around FKdrill site (8 stakes, 2 km from center)

GNSS files:

Points FKS08, FKS03 and FKS05

Base station: BELARE2017/GNSS/101217_StrainNetworkFK/61733444A.T02

Rover station FKS08: BELARE2017/GNSS/101217_StrainNetworkFK/02783443.T02

Rover station FKS03: BELARE2017/GNSS/101217_StrainNetworkFK/02783444.T02

Rover station FKS05: BELARE2017/GNSS/101217_StrainNetworkFK/02783445.T02

Points FKS01, FKS06, FKS02, FKS07, FKS04

Base station: BELARE2017/GNSS/101217_StrainNetworkFK/61733445A.T02

Rover station FKS08: BELARE2017/GNSS/101217_StrainNetworkFK/02783446.T02

Rover station FKS03: BELARE2017/GNSS/101217_StrainNetworkFK/02783447.T02

Rover station FKS05: BELARE2017/GNSS/101217_StrainNetworkFK/02783448.T02

Rover station FKS05: BELARE2017/GNSS/101217_StrainNetworkFK/02783449.T02

Rover station FKS05: BELARE2017/GNSS/101217_StrainNetworkFK/0278344A.T02

11.12.2017

Radar profile from KAT3 to KAT4 (across FKdrill).

Some problems occurred here: the GNSS rover system fell out just after FKdrill and there was some spurious noise on the GSSI data (related to coiled and strained cable between antenna and instrument, as well as the guidance of the cable, and wet bottom of the antenna box.). A short profile was repeated the next day (see below). There were also a number of sections that needed to be repeated due to battery failure and file size limits crossed. Also visibility was poor that did not help in making stable measurements.

GSSI files:

Files: ICI____039.DZT to ICI____055.DZT

Directory: BELARE2017/gssi/ICI.PRJ

GNSS files:

Base station: BELARE2017/GNSS/111217_Katabatic/61733452A.T02

Rover: BELARE2017/GNSS/111217_Katabatic/02783451.T02

12.12.2017

Radar profile along line KAT3-FKdrill-KAT4 (length 3.5 km x 2)

Files: FKIR____004.DZT to FKIR____009.DZT

Directory: BELARE2017/gssi/FKIR.PRJ

GNSS files:

Base station: BELARE2017/GNSS/121217_KatabaticRepeat/61733460A.T02

Rover: BELARE2017/GNSS/121217_KatabaticRepeat/02783460.T02

13.12.2017

Radar profile along divide lines:

KAT6 to KAT5

Files: FKIR____010.DZT to FKIR____015.DZT

Directory: BELARE2017/gssi/FKIR.PRJ

GNSS files:

Base station: BELARE2017/GNSS/131217_DivideProfiles/61733470A.T02

Rover: BELARE2017/GNSS/131217_DivideProfiles/02783470.T02

KAT7 to KAT8

Files: FKIR____016.DZT to FKIR____021.DZT

Directory: BELARE2017/gssi/FKIR.PRJ

GNSS files:

Base station: BELARE2017/GNSS/131217_DivideProfiles/61733470A.T02

Rover: BELARE2017/GNSS/131217_DivideProfiles/02783471.T02

14.12.2017

Cross profiles near divide. GPS route.

Problem: no GNSS data associated, only handheld GPS data saved in file BELARE2017/Positions/FK2017all.gpx and CrossDivide.csv

Files: FKIR____022.DZT to FKIR____031.DZT

Directory: BELARE2017/gssi/FKIR.PRJ

GNSS files: none: BELARE2017/Positions/FK2017all.gpx and CrossDivide.csv

ApRES processing

fmcw folder in Matlab

1. Viewing files: fmcw_plot
2. calculating melt: fmcw_melt
3. test_mass2ant: script for year-long evolution of melt based on constant value of vertical strain rate (does not change much with varying strain)

GNSS processing

1. rtklib software (rtklaunch and or rtkpost)
2. strating from RINEX 3.00 input files
3. download from GNSS instrument both observations and ephemeris (combined glonass and gps in one file)
4. processing is kinematic for profiles and static for the strain network

GSSI processing

1. Script PlotDataFK.m
2. Reads GNSS .pos file with positions and time
3. Reads consecutive files from GNSS (start and end-number given)
4. Links GNSS time to GSSI time
5. Filtering
6. Plot of full profile depth versus horizontal distance