

International EISCAT-NSF Radar School

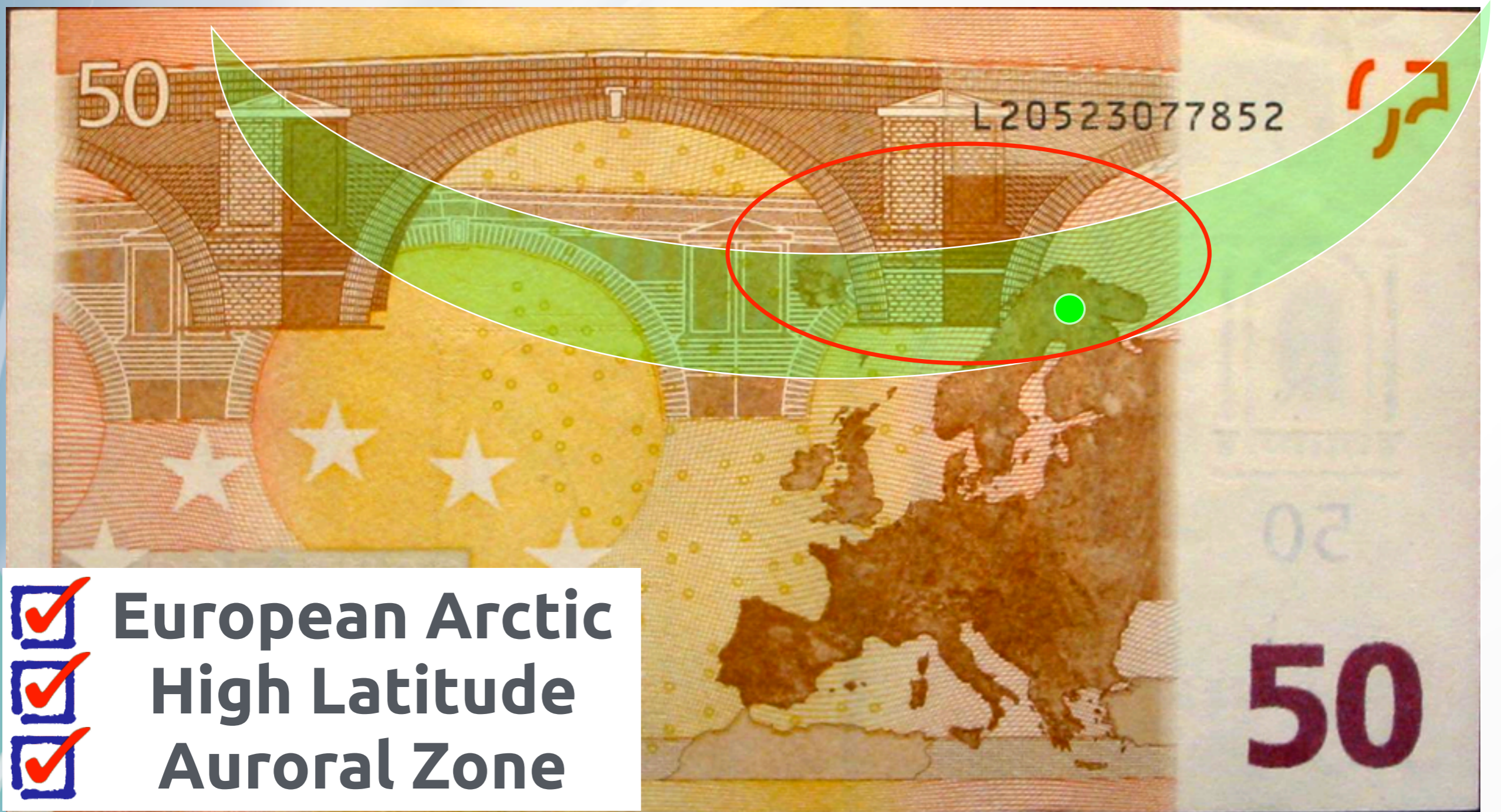
Sodankylä Geophysical Observatory
Sodankylä, Finland
25th – 30th July 2016



WELCOME!

SODANKYLÄ GEOPHYSICAL OBSERVATORY 1913–2013

Where we are...



Sodankylä Geophysical Observatory

- 1st International Polar Year 1882/83.
- Established by Finnish Academy of Science and Letters in 1913.
- Finland independent from Russia 1917.
- Part of U Oulu 1st Aug 1997.
- National Task.
- Oldest scientific institute in Northern Finland.

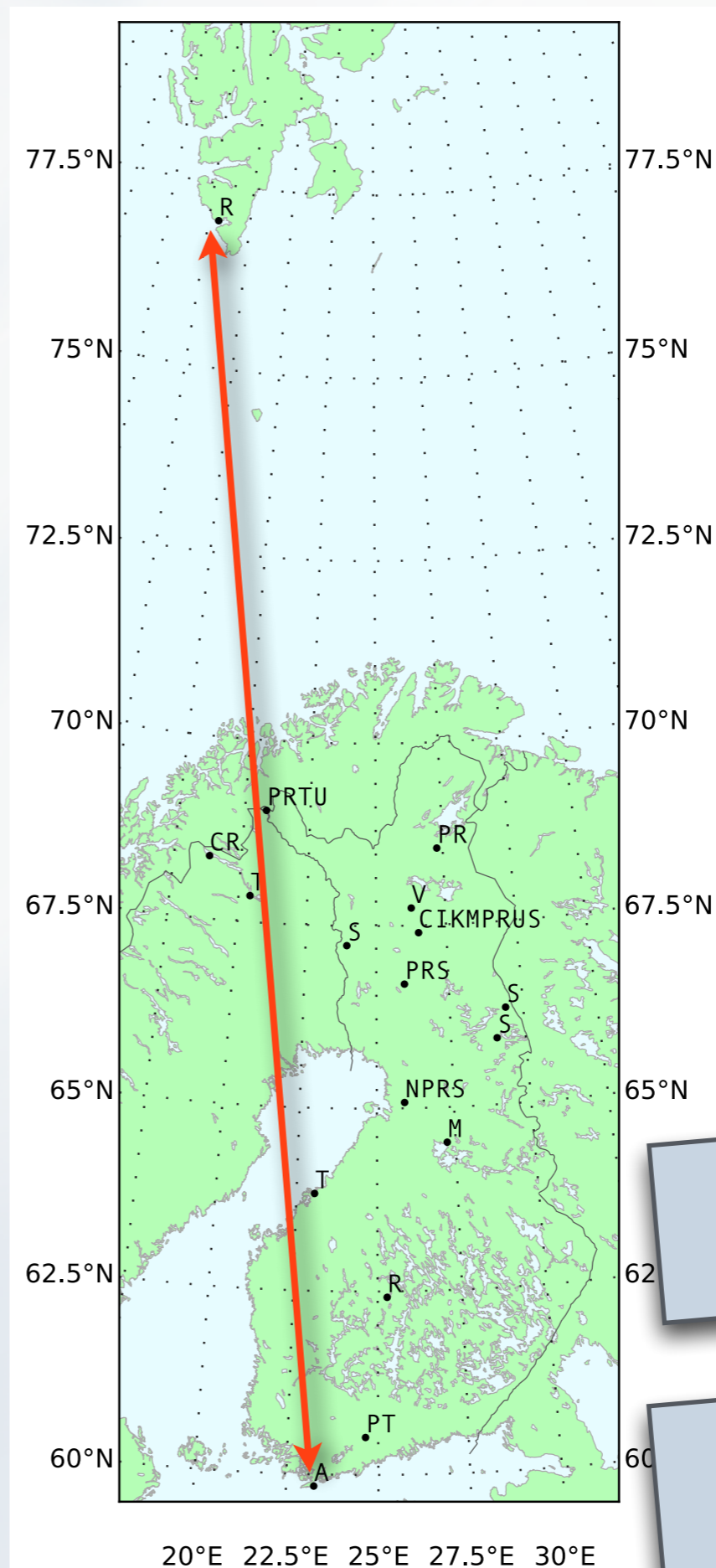


Photo: Timo Rantala

Operations extent over 2000 km meridional distance!

We operate:

- Magnetometers
- Pulsation Magnetometers
- Ionosonde
- Riometer Chain
- All-Sky Cameras
- Ionospheric Tomography Chain
- Neutron Monitor
- Various VLF receivers
- Network of Seismic Stations
- Imaging Riometer (U Lancaster)
- Meteor Radar (U Leicester)
- Fabry-Perot Interferometer (UCL)
- EISCAT Incoherent Scatter Radar
- etc.



+Ethiopia

+Antarctica

Library

SGO has a very comprehensive library with material dating back to the IPY 1882/83.

If you need any material,
please ask us for access.

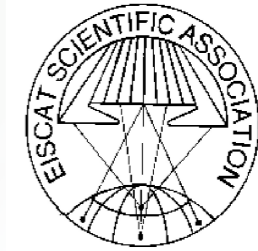
TÄHTELÄ



OULUN YLIOPISTO
UNIVERSITY of OULU



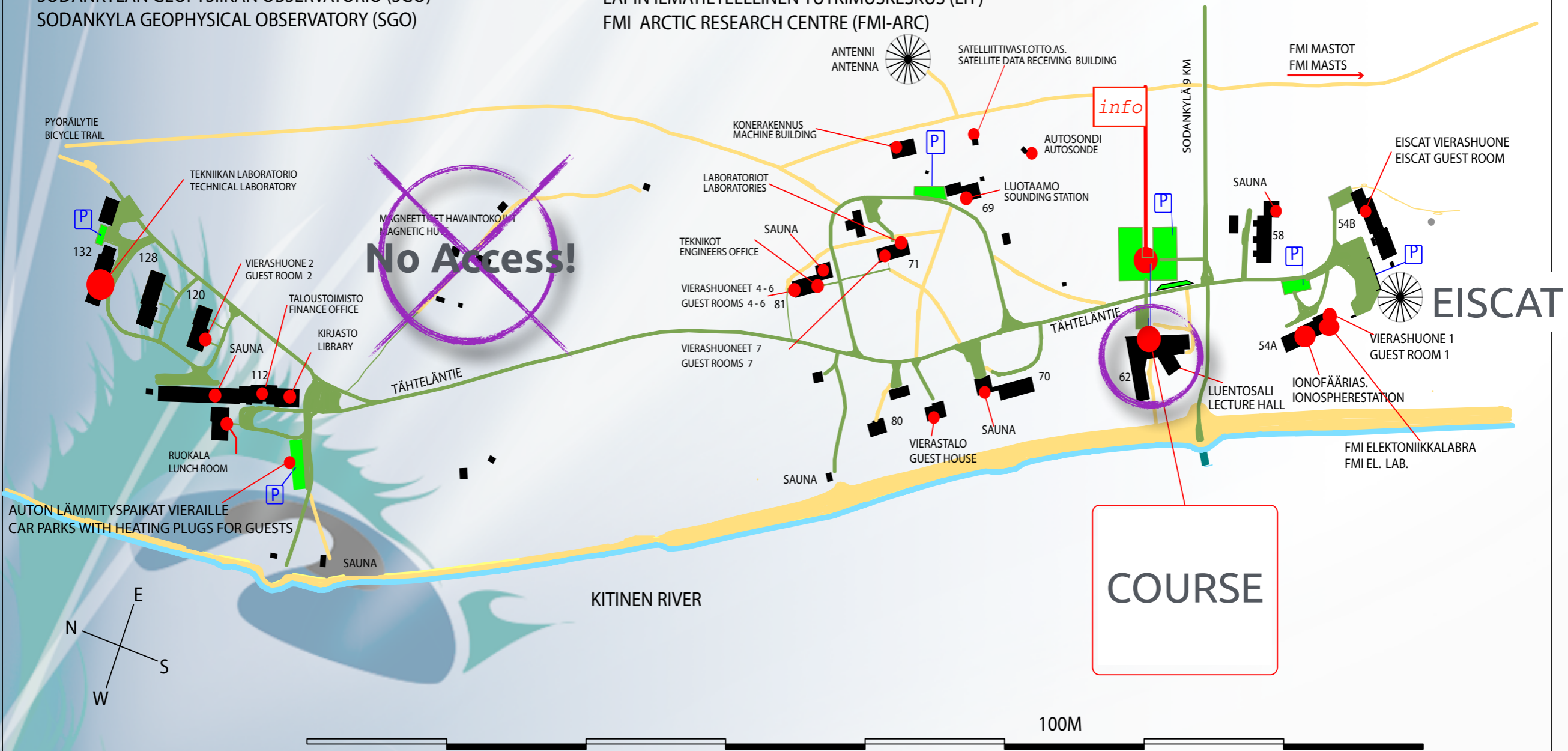
FINISH METEOROLOGICAL INSTITUTE



EISCAT STATION

SODANKYLÄN GEOFYSIIKAN OBSERVATORIO (SGO)
SODANKYLA GEOPHYSICAL OBSERVATORY (SGO)

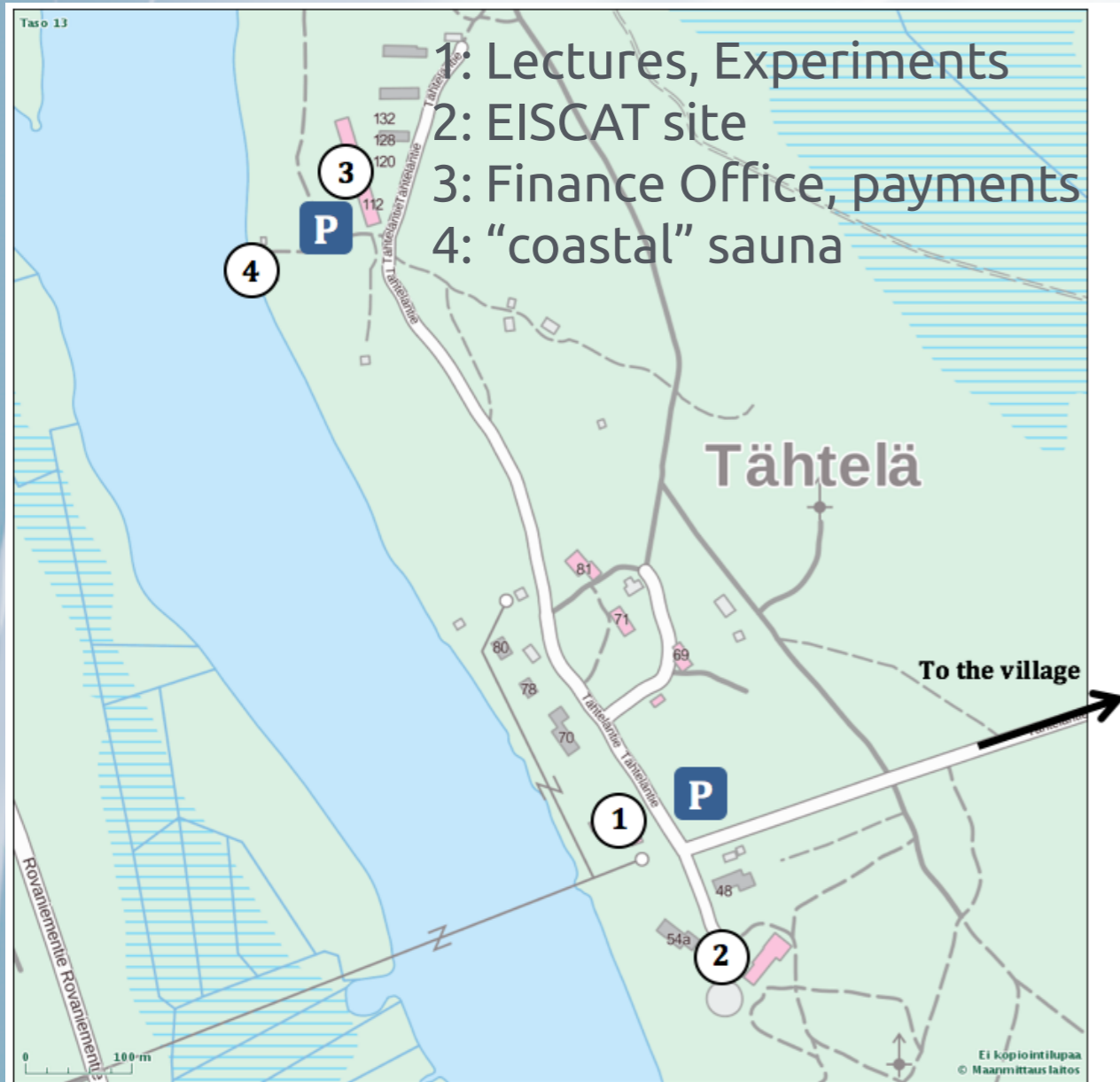
LAPIN ILMATIETEELLINEN TUTKIMUSKESKUS (LIT)
FMI ARCTIC RESEARCH CENTRE (FMI-ARC)



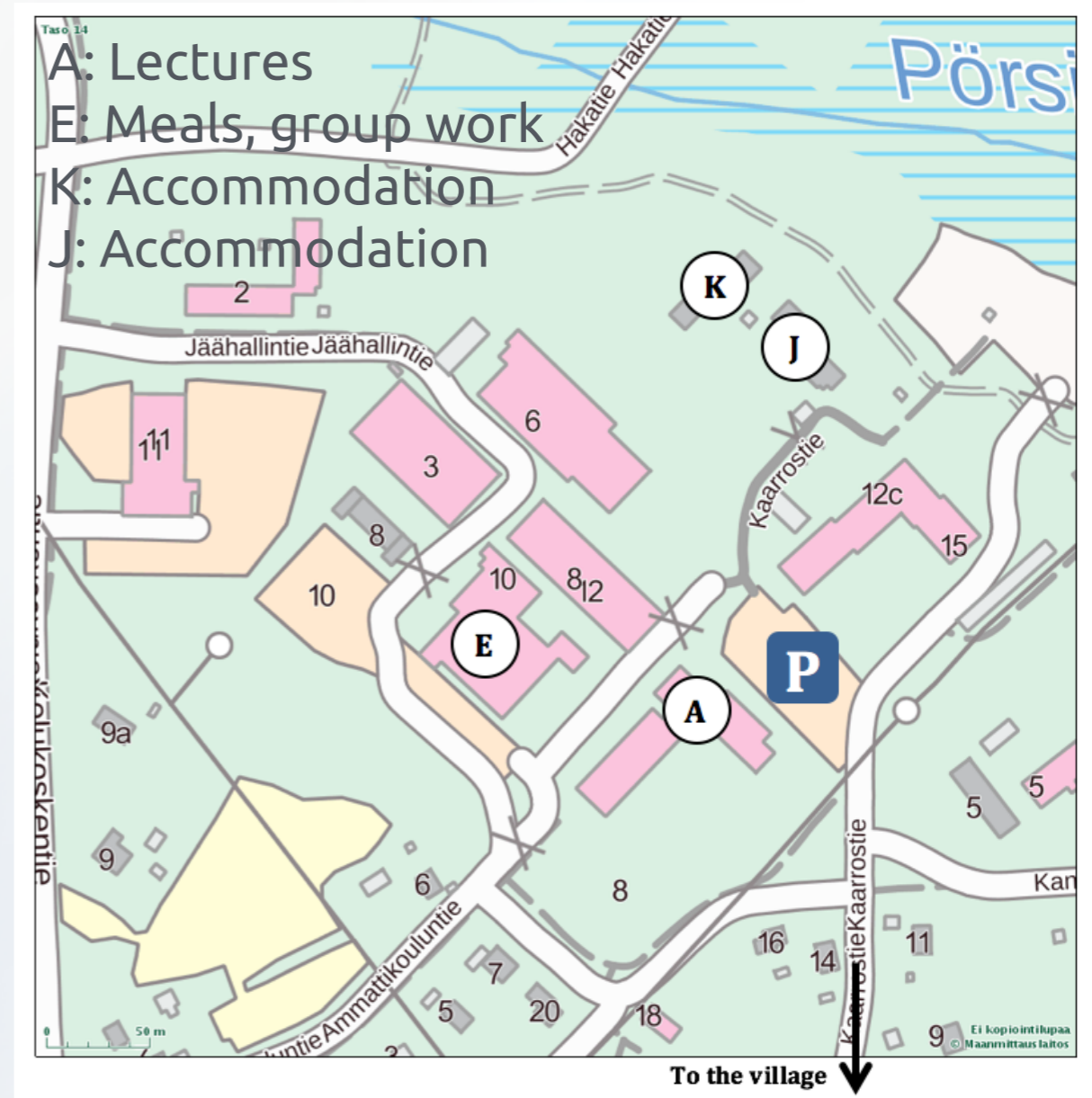
RM 2001

SODANKYLÄ GEOPHYSICAL OBSERVATORY 1913-2013

SGO



LAO



Accommodation

Important!

Before you leave, please take the sheets off your beds and dump them together with your towels at a central point of your flat!

Your helping us is part of the reason why we can offer these rooms at this price.

Timetable

- Breakfast: 0730 h
- Lectures start: 0830 h
- Coffee break: 1000 h or 1015 h
- Lunch: 1200 h (1215 h on Mon)
- Transfer to SGO (Mon, Thu, Fri; check times!)
- Afternoon break: 1500 h or 1515 h
- Shuttle to LAO: 1800 h
- Dinner: 1900 h (special arrangements on Tuesday)

Tuesday

- Submit proposal by 1645 hrs.
- Get feedback by 1700 hrs.
- Radar Experiments 1730 h – 0130 h.
- Seven groups / 2 hrs each.
- Radar experiments in SGO lecture room.

Experiments

UTC	LT	Group Numbers							# students to LAO	# students to SGO	Shuttle type	Time	SGO Driver					
		TBD	TBD	TBD	TBD	TBD	TBD	TBD										
14:10	17:10	shuttle to SGO	idle	idle	idle	idle	idle	idle		6	SGO	17:10	ThU					
14:30	17:30	Experiment mainland or ESR										17:30						
15:00	18:00		Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner				18:00					
16:10	19:10	shuttle to SGO	shuttle to SGO	shuttle to SGO	shuttle to SGO	shuttle to SGO	shuttle to SGO	shuttle to SGO		36	JBUS	19:10	---					
16:30	19:30	shuttle to LAO	Experiment mainland	Walk cw+acw	Walk cw	Walk cw	Experiment ESR	Walk acw	6		SGO	19:30	self					
16:50	19:50	Dinner															19:50	
17:00	20:00	idle																20:00
17:50	20:50	shuttle to SGO								6	SGO	20:50	self					
18:30	21:30	Walk cw	Walk cw	Experiment mainland	idle	idle	Walk acw	Experiment ESR				21:30						
20:10	23:10											23:10						
20:30	23:30	shuttle to LAO	shuttle to LAO	shuttle to LAO	Experiment mainland	Experiment ESR	shuttle to LAO	shuttle to LAO	30		JBUS	23:30	---					
20:50	23:50													23:50				
22:10	01:10	END	END	END			END	END				01:10						
22:30	01:30				shuttle to LAO	shuttle to LAO			12		SGO	01:30	ThU + 1					
22:50	01:50				END	END						01:50						

Radar Walk

- Parallel to radar experiments.
- Visit to SGO radar installations.
- Bring walking shoes (dry forest, sand).

Radar Walk

Thomas Ulich & Maxime Grandin



Fun Exercise:

At location $67^{\circ} 21.781'N$, $26^{\circ} 38.074'E$ you can see the shadows of the masts of the SGO ionosonde transmitter in Google Earth.

The satellite image is dated 30th May 2007.

Task: calculate the height of the centre mast.



Excursion

- Wednesday
 - Breakfast: 0730 h.
 - Departure: 0830 h.
 - Prepare for all morning outside! Good shoes!
 - Return for lunch at 1300 h.
 - Programme resumes at 1400 h @LAO.

WLAN

- At LAO:
 - eduroam (own passwords)
 - EISCAT_1 or EISCAT_2 (no password)
 - EISCAT_Staff (teachers only, ask!)
- At SGO:
 - eduroam (own passwords)
 - panOulu (no password)

WLAN

EISCAT_Staff, EISCAT_1 and EISCAT_2

are 4G LTE (GSM) routers with

limited bandwidth!

Connect only one device at a time!

Emergency

Call

112

Questions?



Enjoy!