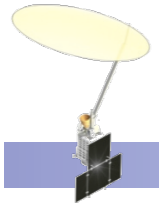


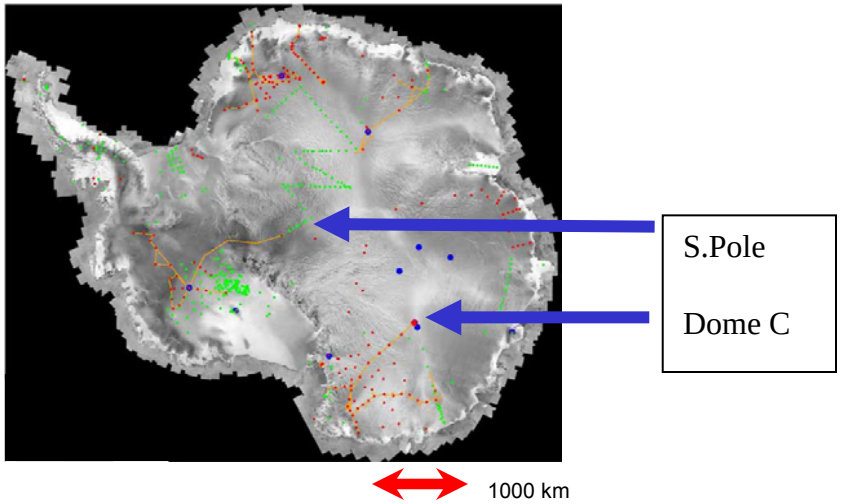
Level 1 Algorithm Cal/Val Requirements and Short Presentations

- L1 Radiometer (see L1 radiometer presentation in algorithms workshop session) (J. Piepmeier)
- L1 Radar (see L1 radar presentation in algorithms workshop session) (R. West)
- Antarctic microwave observations supporting SMAP and SMOS (E. Kim)
- Long-time stability of L-band emission at Dome-C in Antarctica (M. Brogione)

Antarctic Microwave Observations Supporting SMAP & SMOS

(Ed Kim, NASA Goddard Space Flight Center)

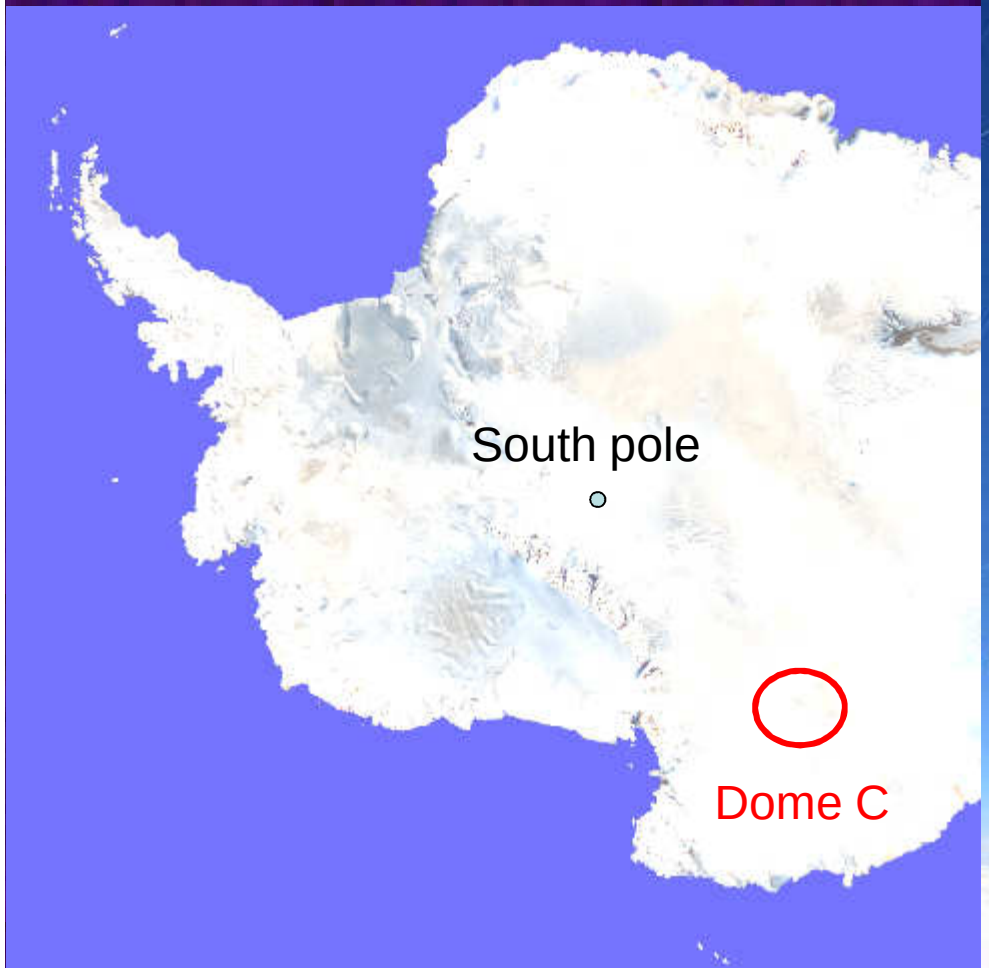
- An ideal Cal target: large, stable, uniform, & known Tb value.
- Antarctica offers: a Large beam-filling target at Tb ~200K (vs. <10K cold space and <100K ocean) seen by SMAP, SMOS, & Aquarius
- Small annual Tb variation→ stable
- Point Tb measurements in progress by ESA/Italy group at Dome C
- Good Tb models exist→ known Tb
- The Big Unknown: Spatial variability→need areal observations
- We know how to answer this: Airborne & ground segment details all designed; international team is ready.
- 1.5 yr lead time once $ avail.

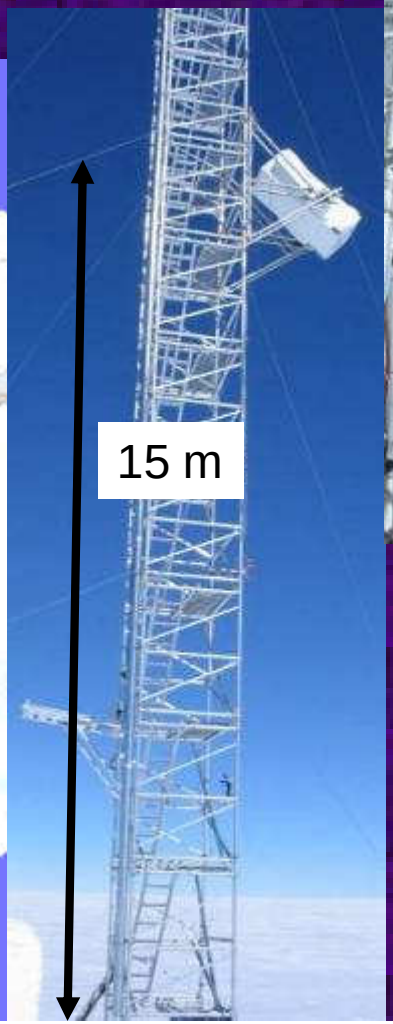


II - DOMEX-2 : long time stability of L-band emission at Dome-C in Antarctica (ESA activity)

M.Brogioni, G.Macelloni, S.Paloscia, P.Pampaloni, S.Pettinato, E.Santi

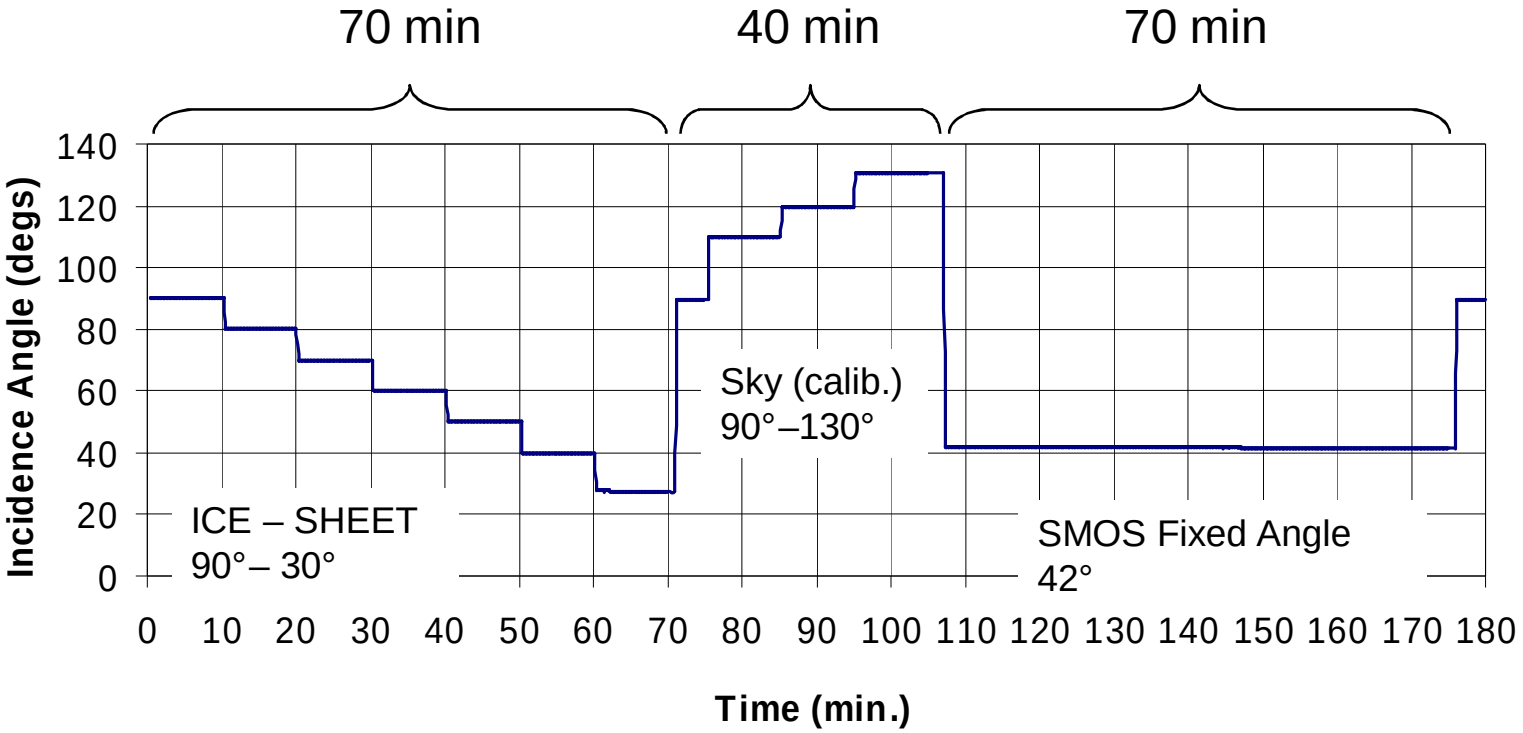
IFAC-CNR (Italy)



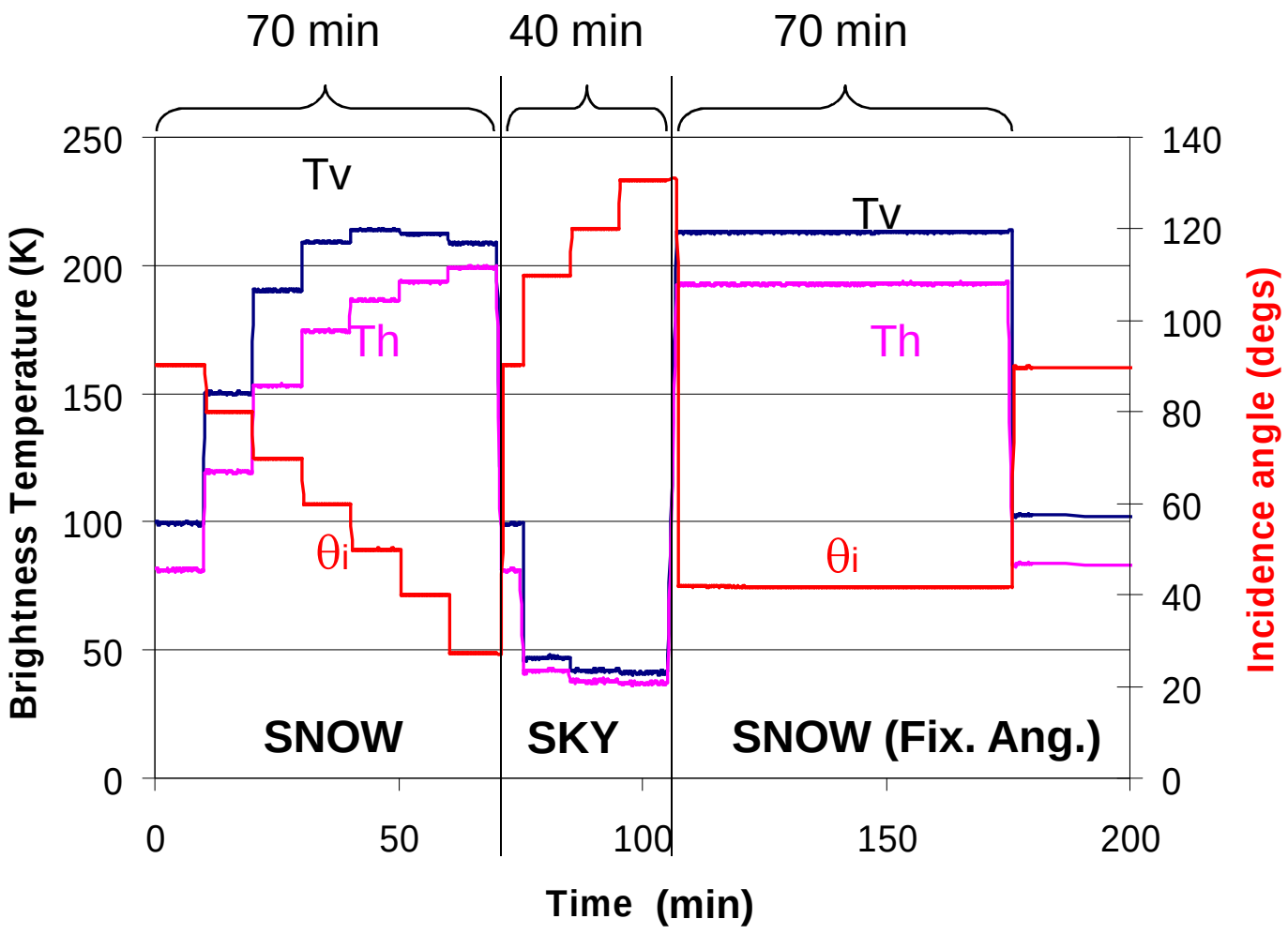


DOMEX-2 Schedule

- Start : 29 November 2008
- End: November 2009 (TBC)
- Data Transfer : Tower → Base → Italy (1 day)
- Measurements cycle:



Domex-2 – Preliminary results



Not yet fully calibrated data!!!

Domex-2 – Activities

Besides measuring of the brightness temperature at Dome C we are also performing the analysis of :

- the temporal stability
- the spatial homogeneity
- the extension of the candidate area for the calibration

by means of passive (AMSR-E C-band) and active (RADARSAT, ALOS) data,

- the Faraday Rotation by means of experimental TEC data and its impact on SMOS measurements over Dome C

A detailed spatial characterization of the area at an intermediate scale is lacking !

It should be performed with airborne instruments.

The Radiometer