Galaxy Observer's Guide to the South Pole

Galaxy Forum

MacMillan Space Centre, Vancouver

2008-7-26

Yuki D. Takahashi

Univ. of California, Berkeley

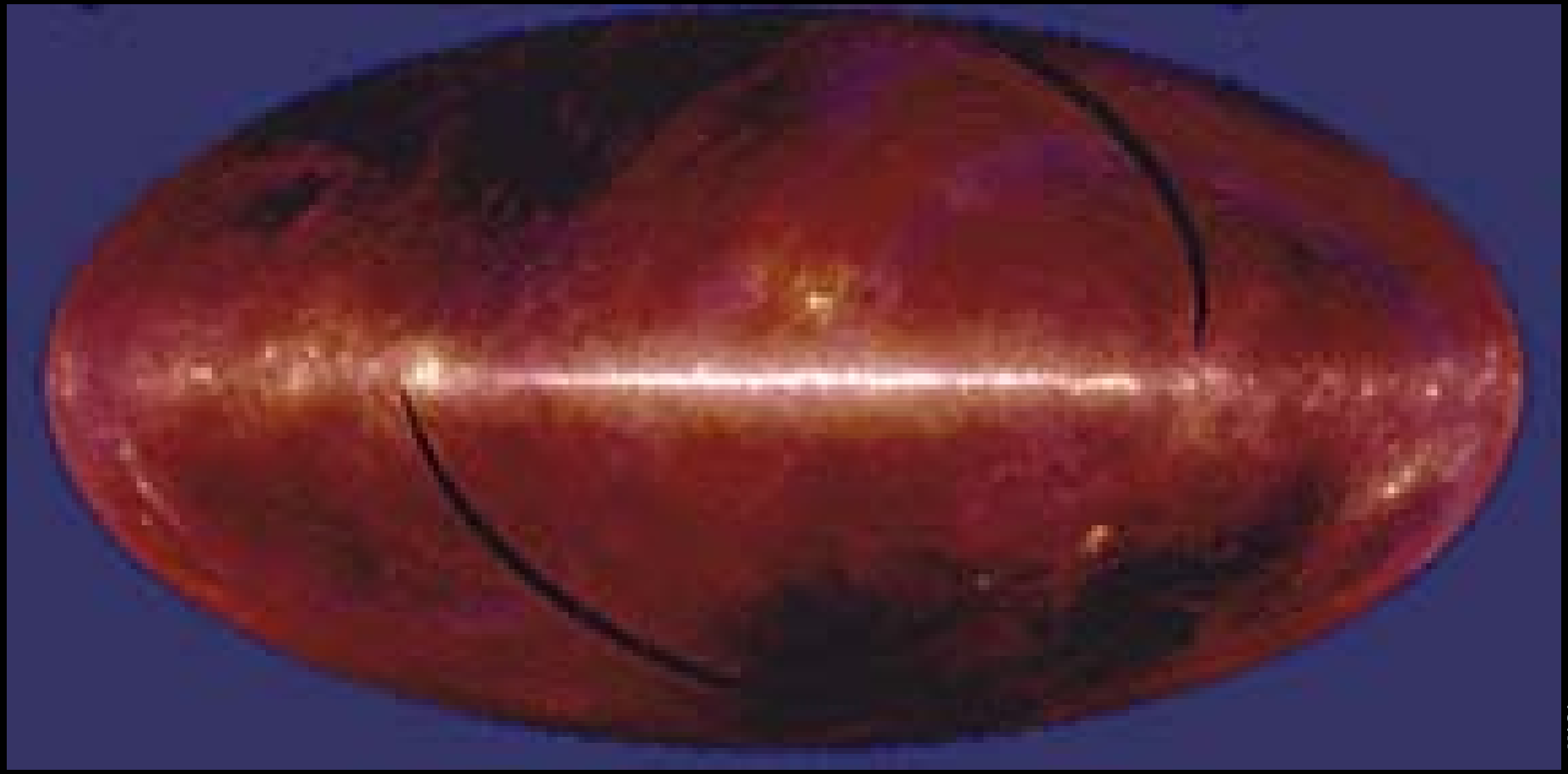
Keith Vanderlinde

Milky Way is Dusty.

NASA

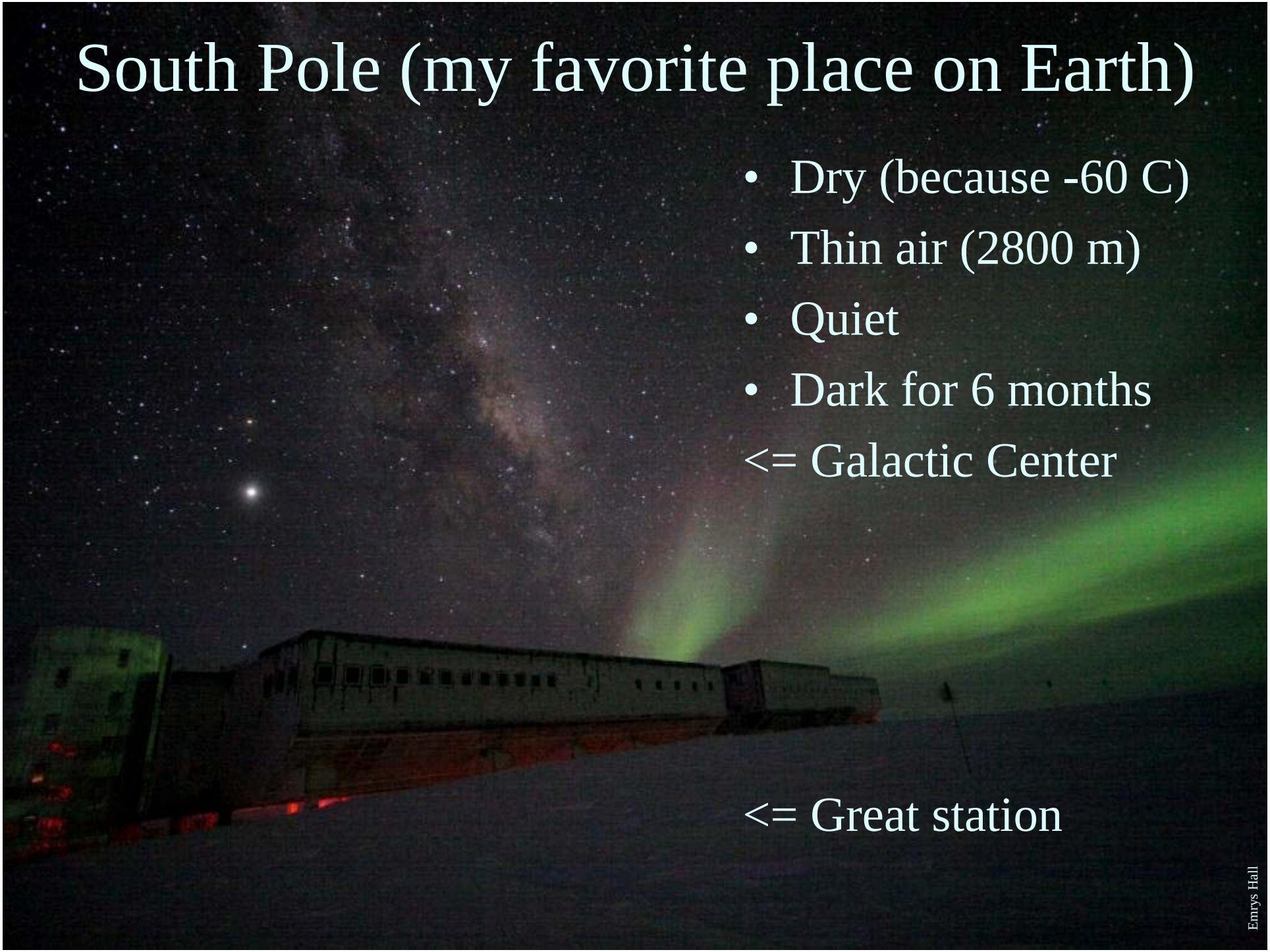
We used to be Dust in the Galaxy!

Dust absorbs light and gives off heat.



30% of all the energy emitted by the Galaxy comes from dust.
=> Infrared / microwave

South Pole (my favorite place on Earth)



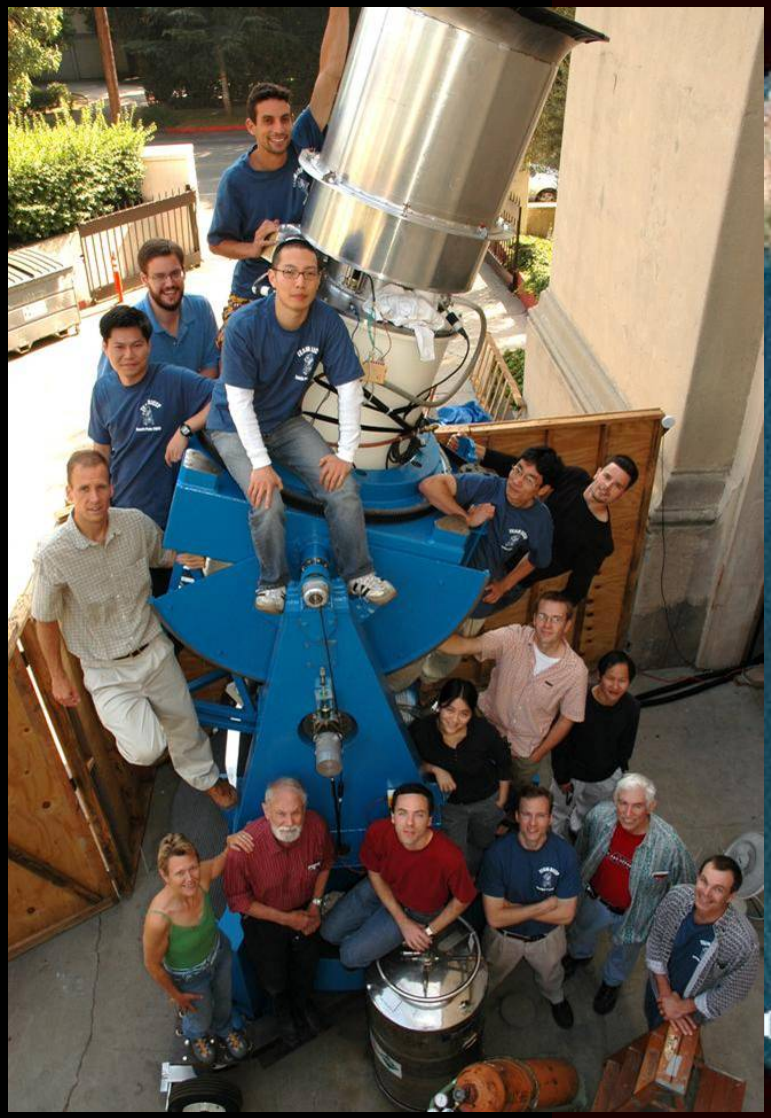
- Dry (because -60 C)
- Thin air (2800 m)
- Quiet
- Dark for 6 months

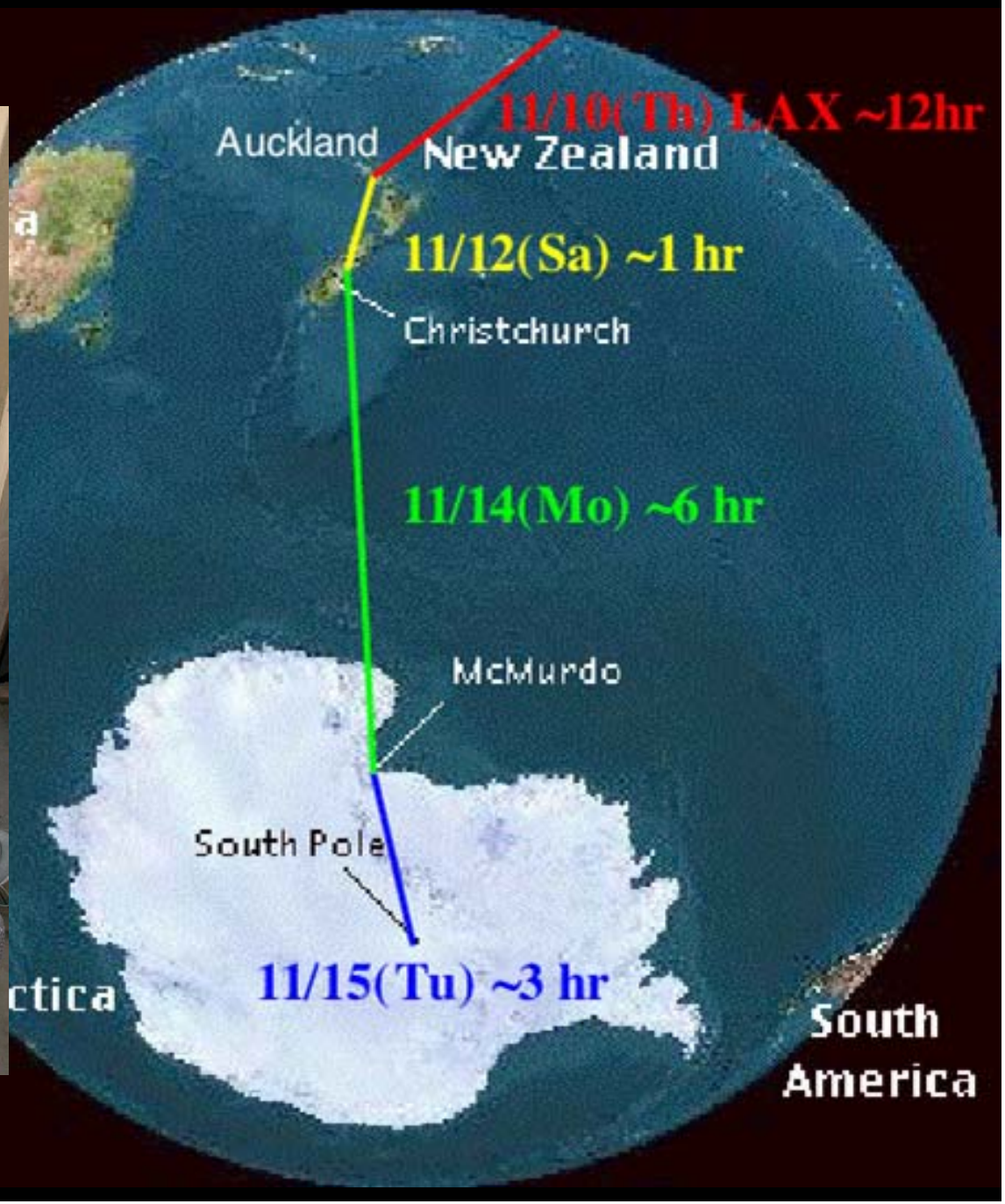
<= Galactic Center

<= Great station

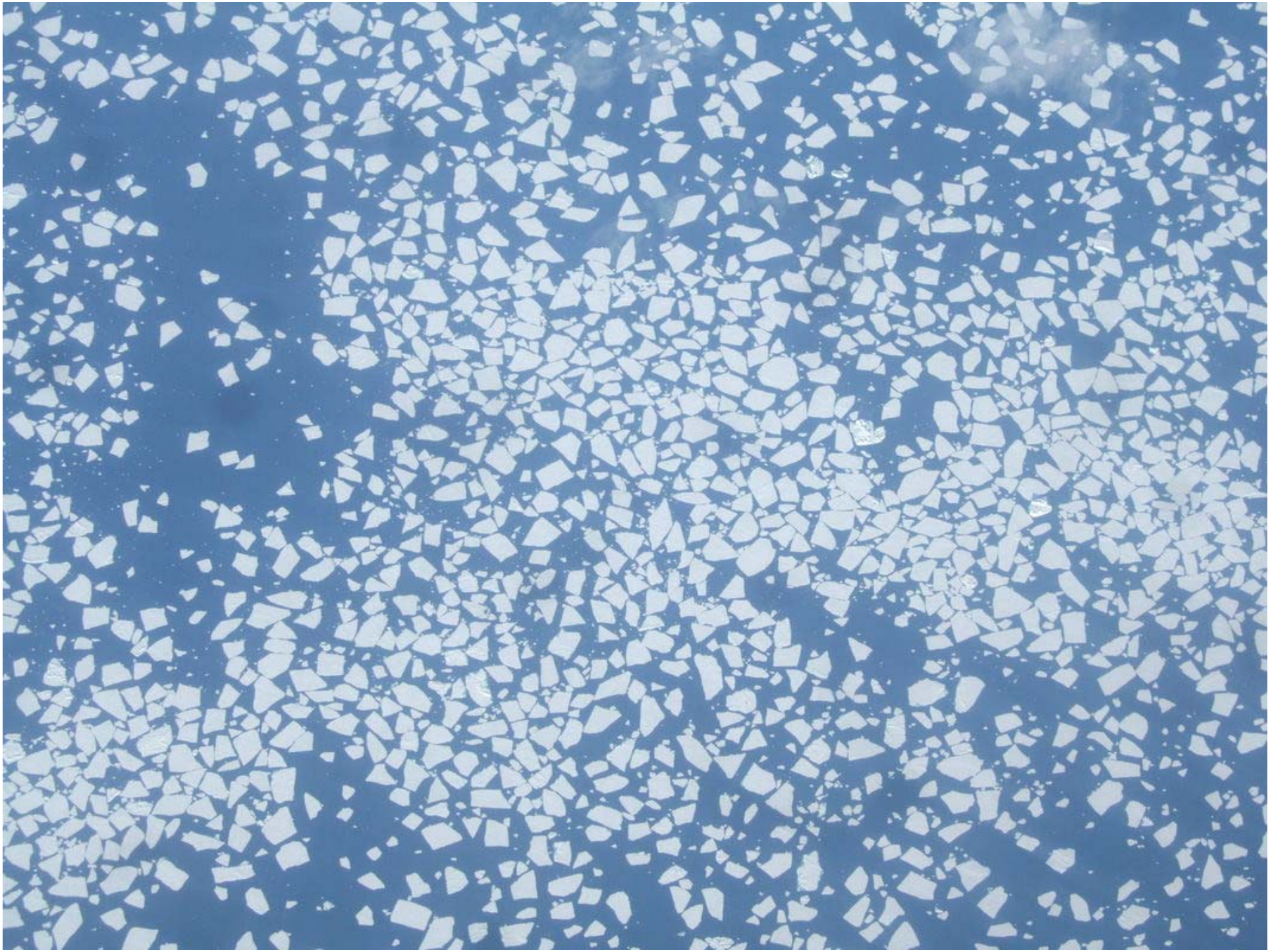
Emrys Hall

2005 Nov




11/10(Th) LAX ~12hr
Auckland
New Zealand
11/12(Sa) ~1 hr
Christchurch
11/14(Mo) ~6 hr
McMurdo
South Pole
11/15(Tu) ~3 hr
South America

air bp
air bp
AIR FORCE
3120
3120



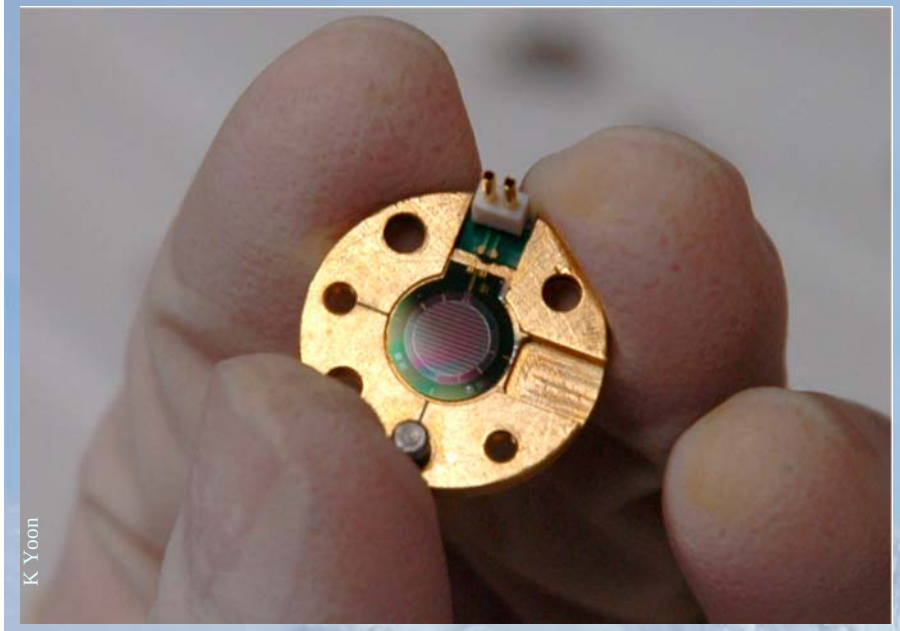
U.S. AIR FORCE
3120

U.S. AIR
City of Christchurch
1096
NATIONAL SCIENCE FOUN

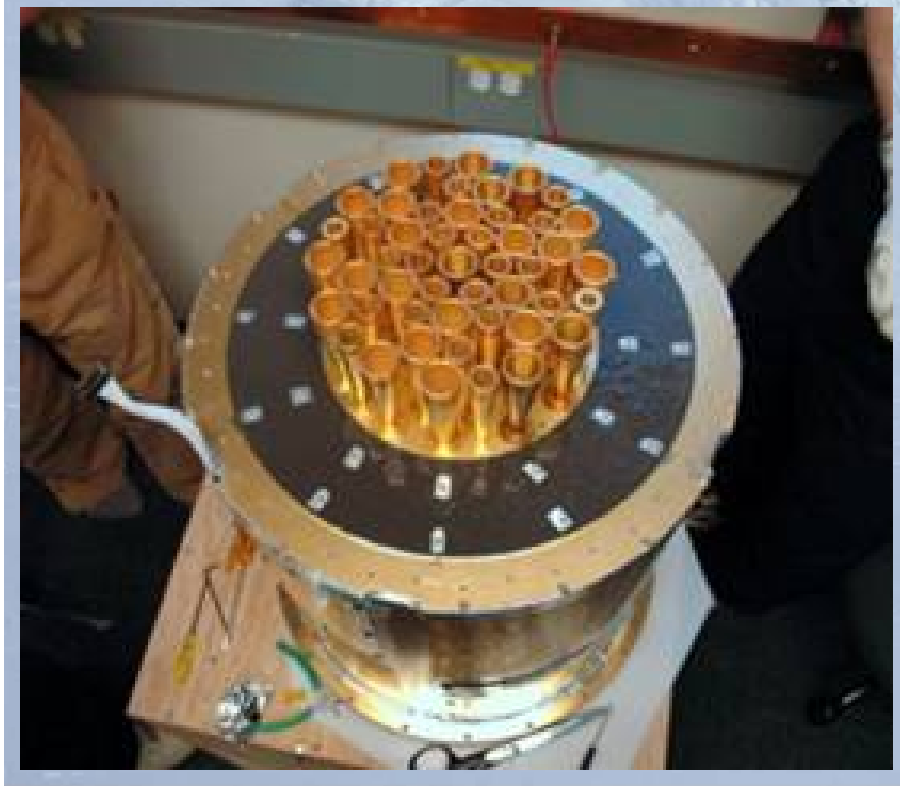
http://www.southpolestation.com/0405/aerials/southfb1.jpg

MANTIS
MANTIS

Microwave detectors cooled to 0.25 K.



K Yoon

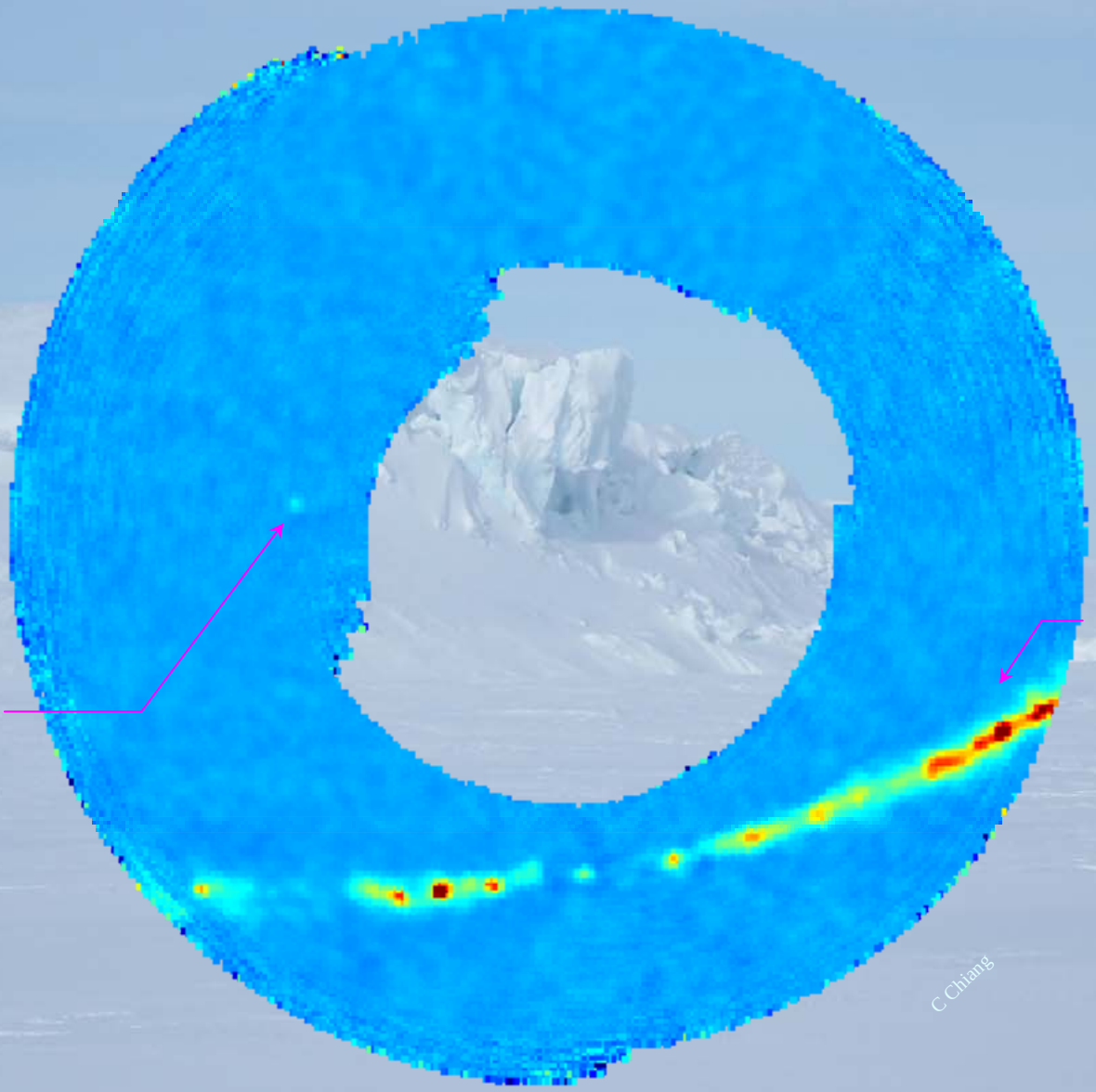


2007/11/13 - 2008/2/13
Galaxy observation mission

A typical day of running the telescope

5 AM	Wake up; Breakfast.
6	Ski to telescope (1 km, 10 min).
7	Tele-conference w/ California (Wed).
8	Analyze data.
9	Prepare observing schedule.
10	Restart the telescope fridge.
11	Star pointing calibration.
12 PM	Ski back to station for Lunch.
1	Fill liquid nitrogen (40 L).
2	Fill liquid helium (100 L).
3	Clean off snow.
4	Start observations. Clean bathrooms (Fri).
5	Monitor telescope.
6	Ski back for Yoga / Pilates / Dinner.
7	Volleyball / Greenhouse.
8	Trauma training (Wed)
9	Analyze data.
10 PM	Sleep / sunbathe.

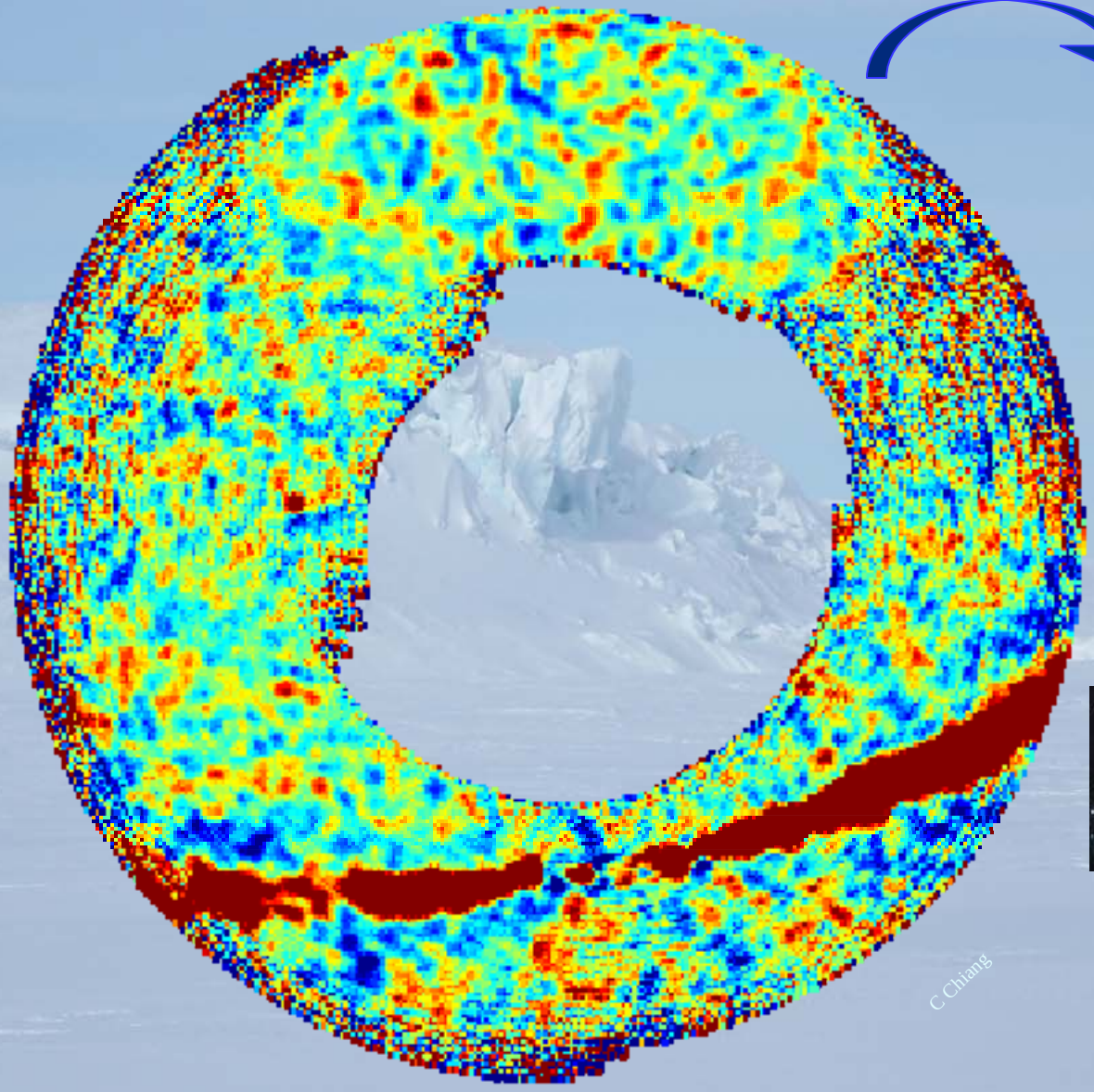
Our Galaxy + a neighbor

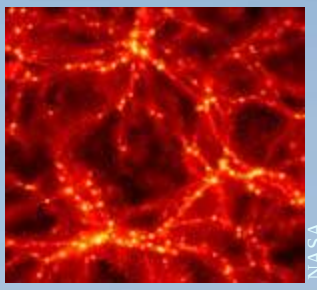


Large Magellanic Cloud

Milky Way

Light from the Big Bang





Galaxy study from Antarctica continues…

Steffen Richter

… and on to
http://cosmology.berkeley.edu/~yuki/sp