

Project Goals for Site

- ◆ Consistently superb obs. conditions
 - Suitable for submm most of the time
 - Suitable for THz much of the time
 - Better than Mauna Kea (requirement)
 - Better than ALMA (goal)
- ◆ Feasible logistics
- ◆ Proximity to other observatories

CCAT

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The slide has a dark grey background with a faint grid pattern. At the top right, there is a small white line-art logo of a radio telescope dish with the letters 'CCAT' underneath. The main content is a list of project goals, with the title 'Project Goals for Site' in a light blue, sans-serif font. The list items are marked with diamond symbols (◆) and sub-items with circular symbols (•). At the bottom left, there is a small white text string: 'CCAT Feasibility/Concept Study Review 17-18 January 2006'.

South America



Atacama



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Living Earth

Chajnantor Plateau (5000 m)

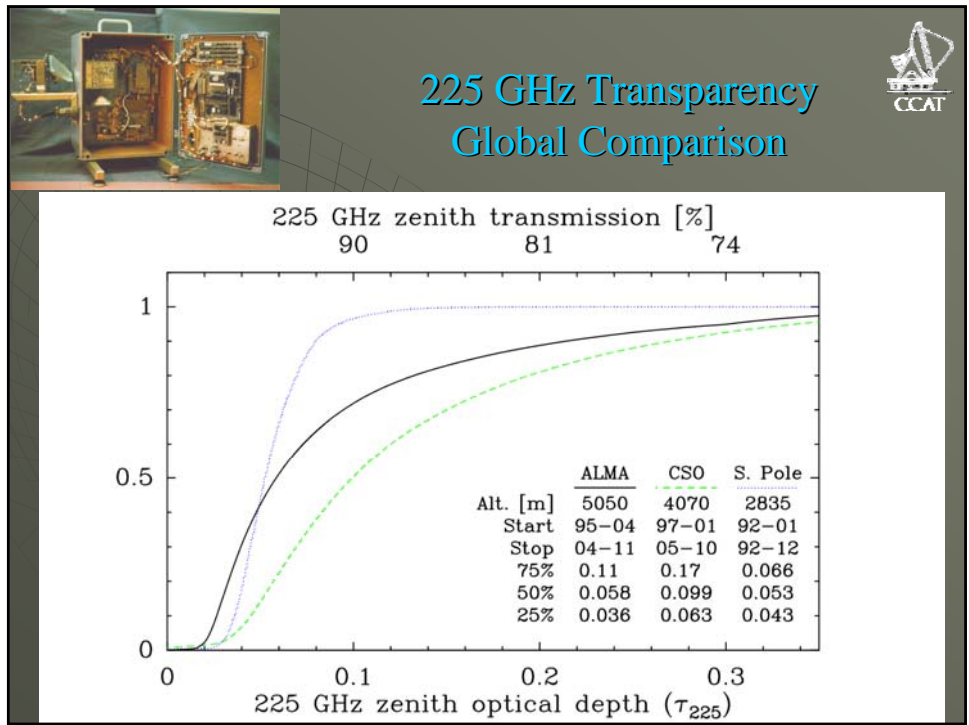
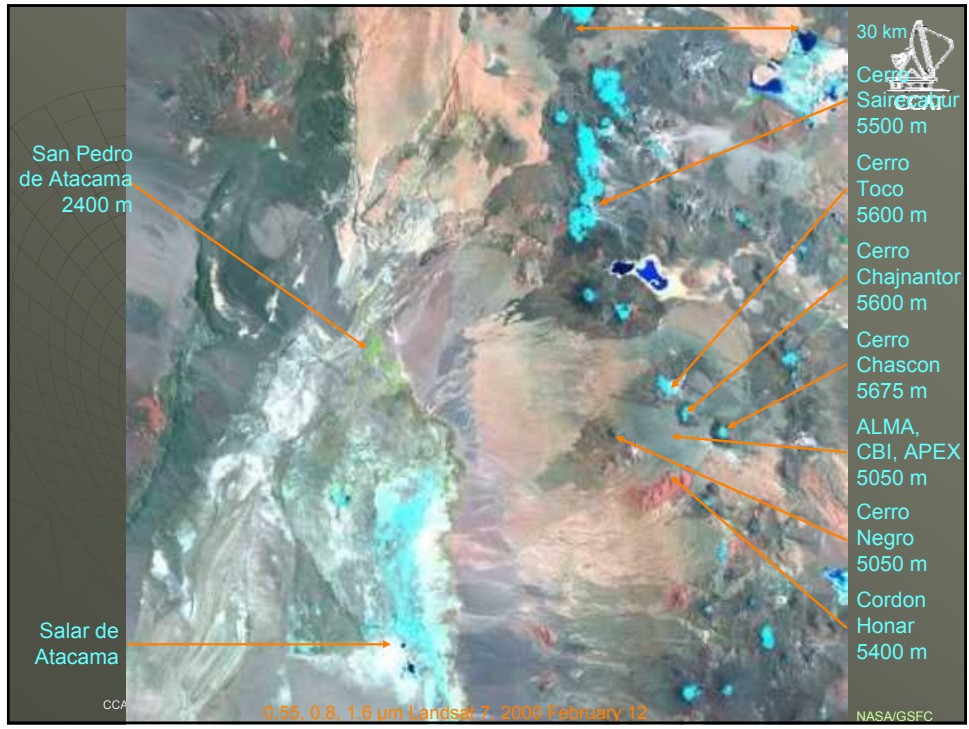


CBI APEX ALMA Co. Chajnantor



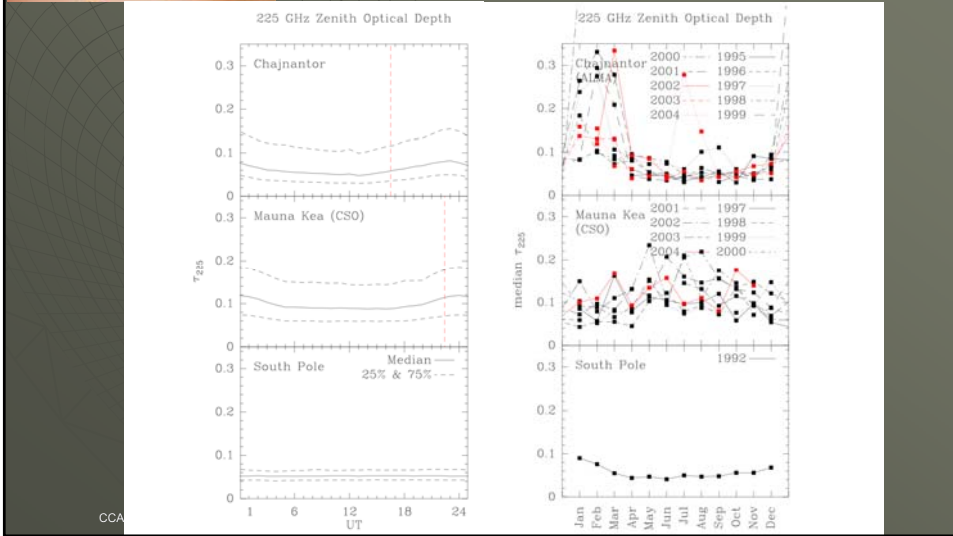
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Dietrich/Caltech

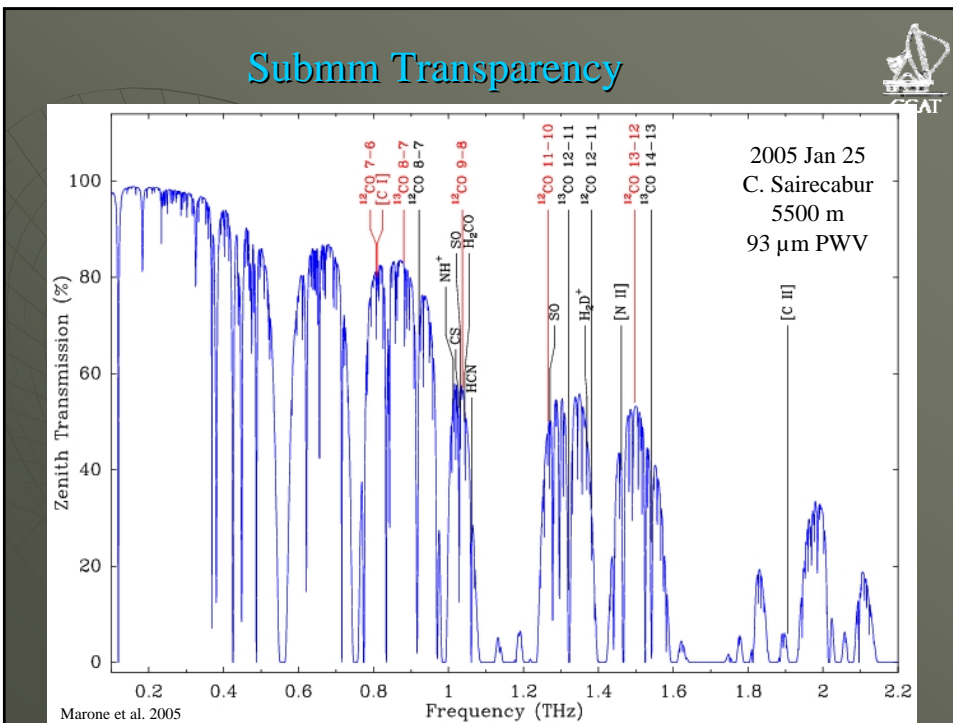




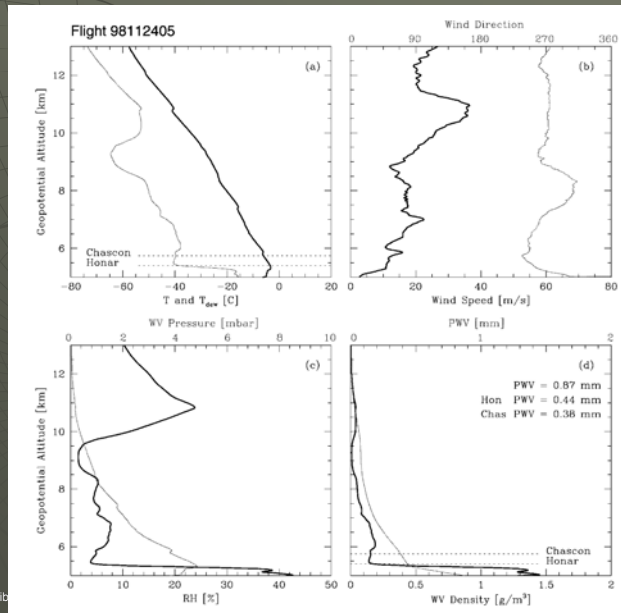
225 GHz Transparency Variations



Submm Transparency



Site altitude: Radiosondes

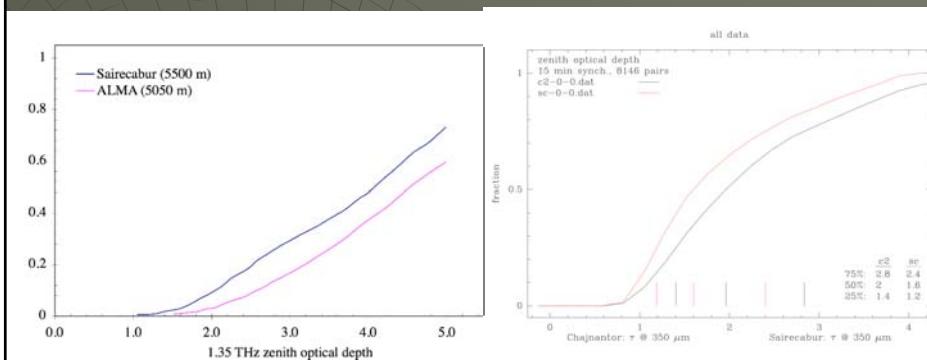


CCAT Feasib

Site Altitude: Transparency



Sairecabur (5500 m) vs. ALMA (5050 m)

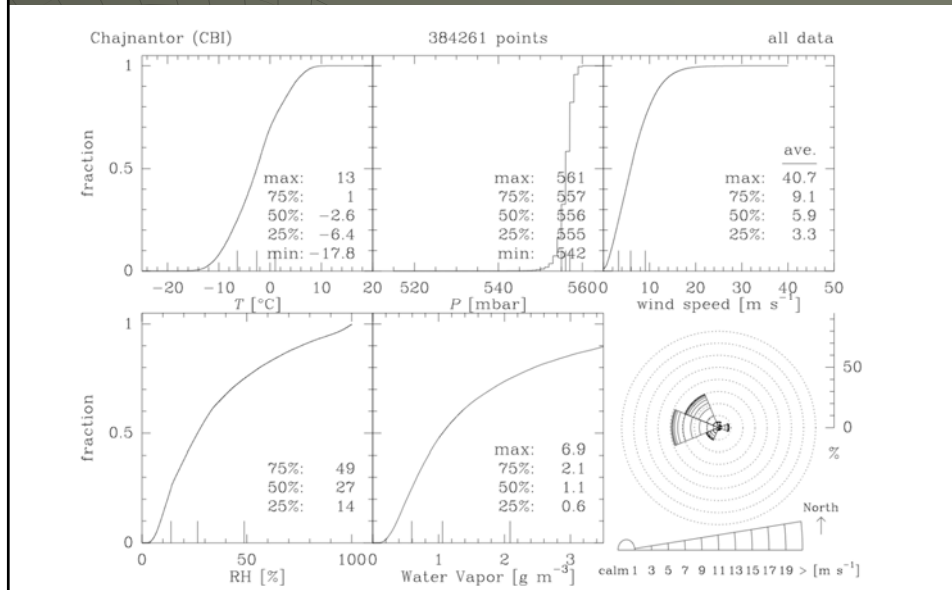


$\tau @ 1.35 \text{ THz}$

$\tau @ 350 \mu\text{m}$

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Meteorology: CBI



Cerro Chajnantor (5600 m)



- ◆ Expected conditions similar to Sairec.
- ◆ 1 ha ENE and 50 m below summit
- ◆ Inside science preserve
- ◆ No archaeology, flora, fauna concerns
- ◆ Close to ALMA (5 km)
- ◆ Share road with Japanese(?)
- ◆ Selected candidate site

Cerro Chajnantor (5600 m)



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1994 November

Cerro Chajnantor: Site Visit



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2005 December 12

Cerro Chajnantor: CCAT site



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2005 December 12

Site Measurements



- ◆ **Broadband 350 μm transparency**
 - Tipping radiometers (NRAO/CMU)
 - Units also at Mauna Kea and South Pole
- ◆ **Simultaneous comparison**
 - Cerro Chajnantor candidate (5600 m)
 - Chajnantor plateau (CBI; 5050 m)
- ◆ **Assume relative conditions are stable**
 - Short term comparison proxy for long term
- ◆ **Direct measurements in 2006**
 - Bureaucratic path difficult in 2005

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CCAT Equipment



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Corndon Honar (5312 m)