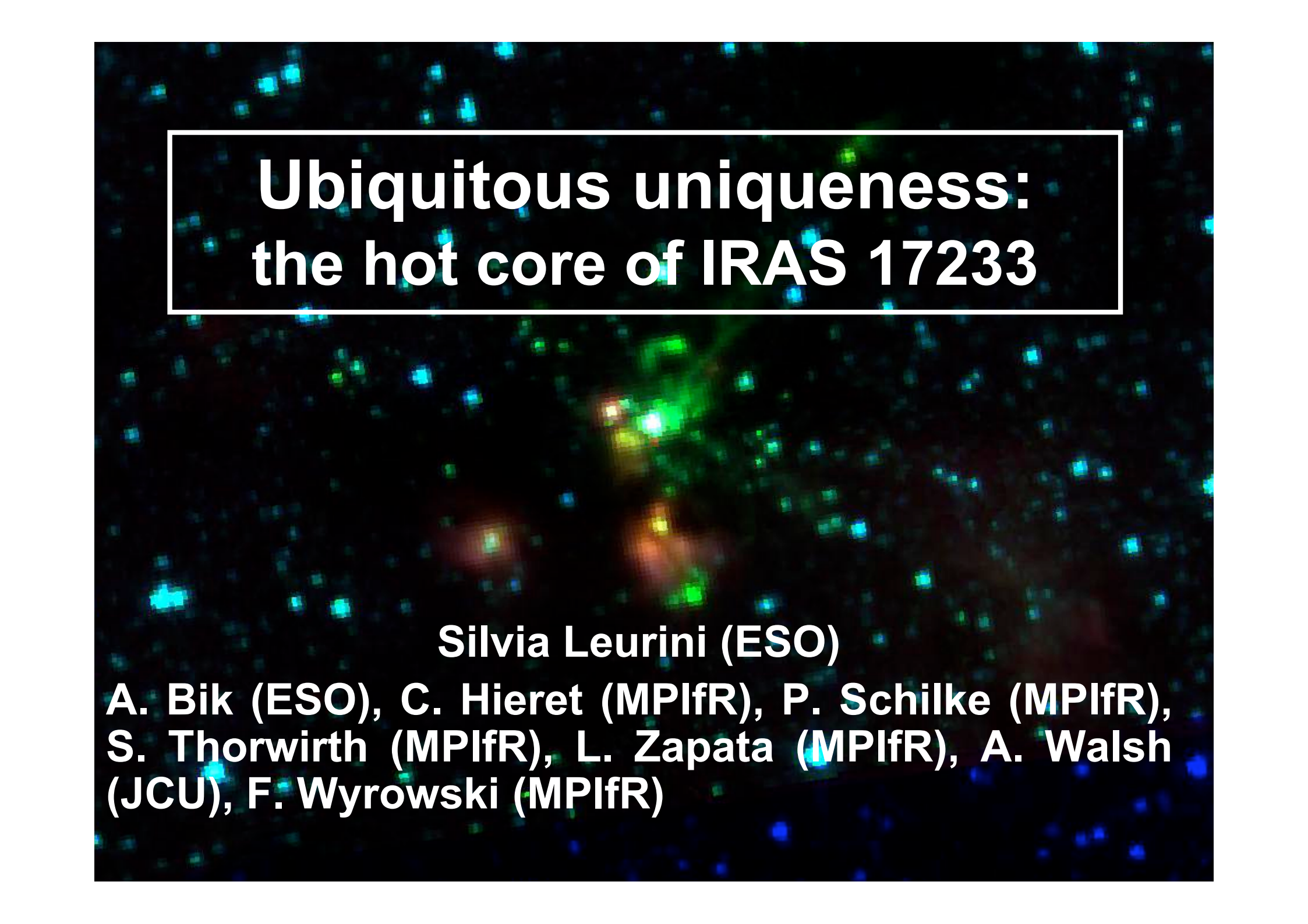




Ubiquitous uniqueness: the hot core of IRAS 17233

Silvia Leurini (ESO)

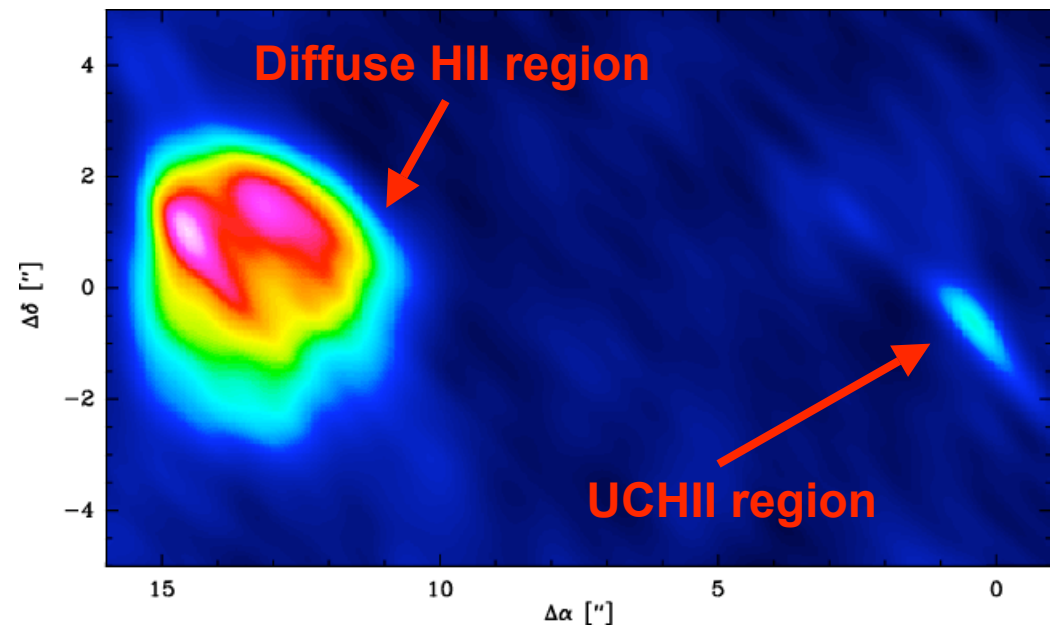
**A. Bik (ESO), C. Hieret (MPIfR), P. Schilke (MPIfR),
S. Thorwirth (MPIfR), L. Zapata (MPIfR), A. Walsh
(JCU), F. Wyrowski (MPIfR)**

IRAS 17233-3606

High mass star forming region:

- Two cm continuum sources;
- $700\text{pc} < D < 2.2\text{kpc}$ (Miettinen et al 2006; Foster&Caswell 1989);
- SEST observations (Faundez et al. 2004): $200 M_{\odot}$
- Strong maser emission in CH_3OH , H_2O and OH (Walsh et al. 1998, Foster&Caswell 1989)

VLA 3.6 cm, Zapata et al. in prep.



APEX Observations



GOAL: Survey of high mass young stellar objects in the southern hemisphere;

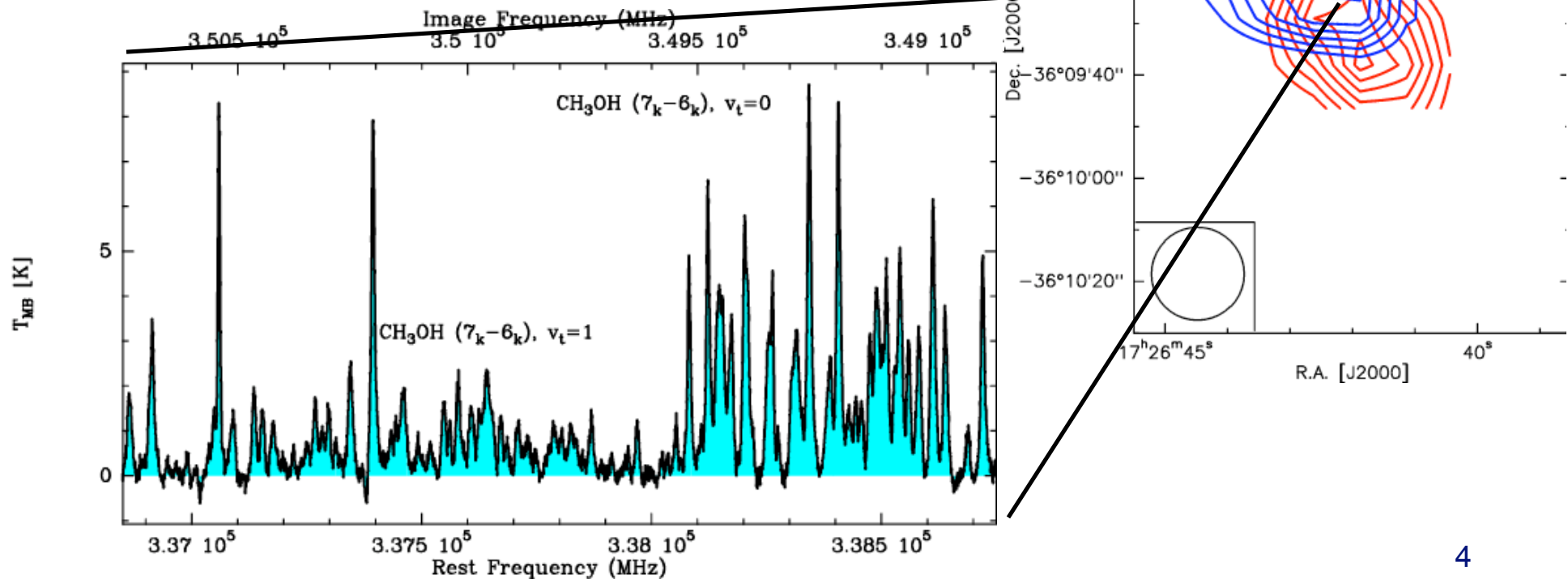
STRATEGY: simultaneous mapping in $\text{HCO}^+(4-3)$, and $\text{CO}(3-2)$; follow up obs. in CH_3OH (6_k-5_k), (7_k-6_k), and CH_3CN (16_k-15_k)

FOR IRAS 17233: continuum scans at 348, 460 and 807 GHz

APEX Observations

Bipolar high velocity outflow in CO(3-2)
and $\text{HCO}^+(4-3)$

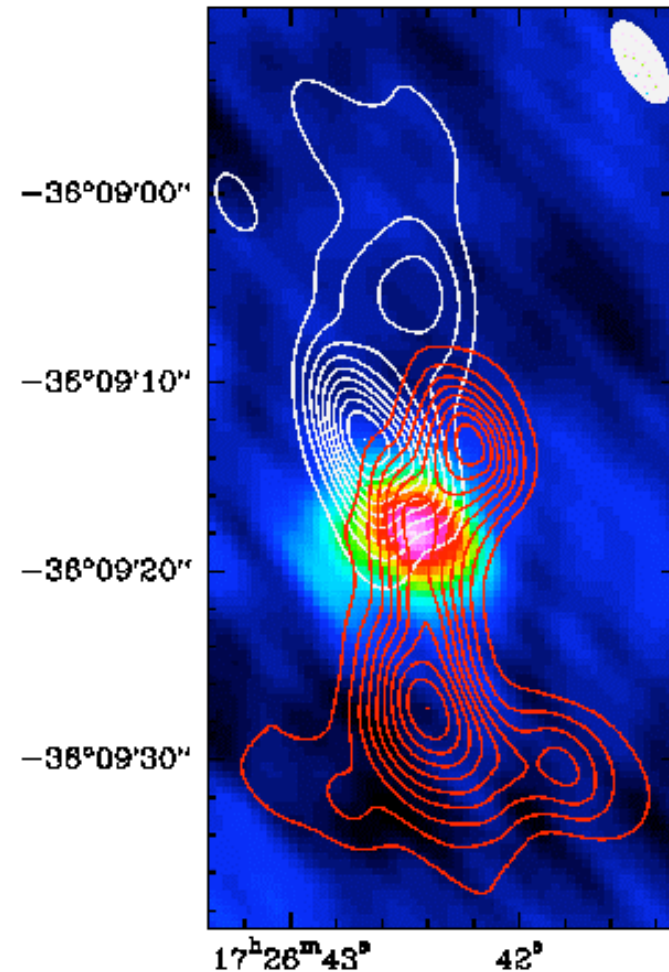
Strong molecular emission towards the
peak position of $\text{HCO}^+(4-3)$



SMA observations

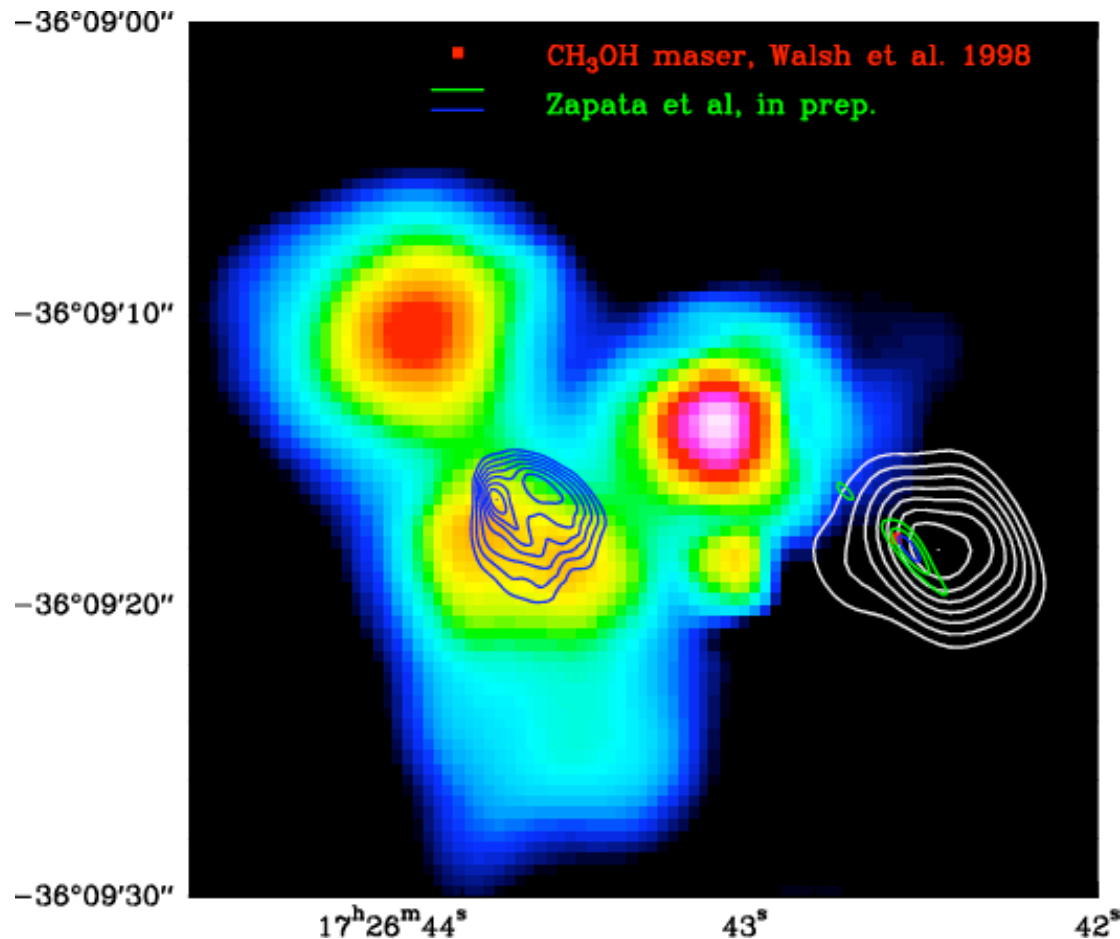
Observations in April 2007

Compact configuration, at 230 GHz (CO(2-1) in usb, $^{13}\text{CO}(2-1)$, CH_3CN in lsb);
CLEANed beam: $\sim 2'' \times 5''$



Hot core in IRAS 17233:

- Continuum peak position of the SMA close to the CH₃OH masers, and to the UCHII region;
- $M=119 M_{\odot}$, $N=2.6 \times 10^{24} \text{ cm}^{-2}$ ($T_{\text{dust}}=50 \text{ K}$, $d=1.5 \text{ kpc}$)
- Extremely rich molecular spectrum.
- Collimated (coll. factor ~ 4) bipolar outflow centered on the continuum emission.



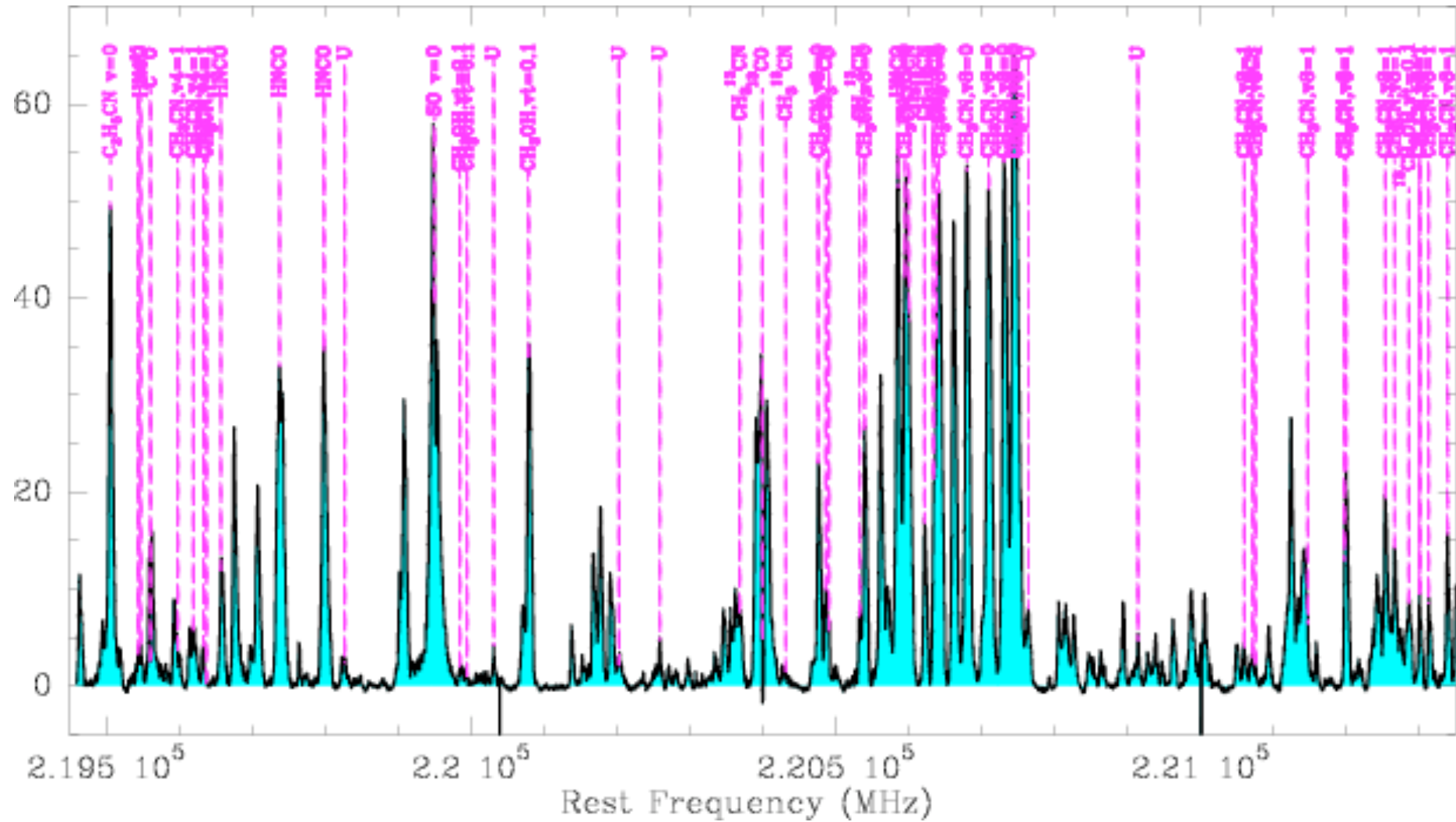
Colour scale: GLIMPSE
survey@8μm

White contours: SMA 1.2 mm
continuum

Green and blue contours: VLA
3.6 cm continuum emission
(Zapata et al in prep.)

eting

SMA observations in the CH₃CN (12_k-11_k) band

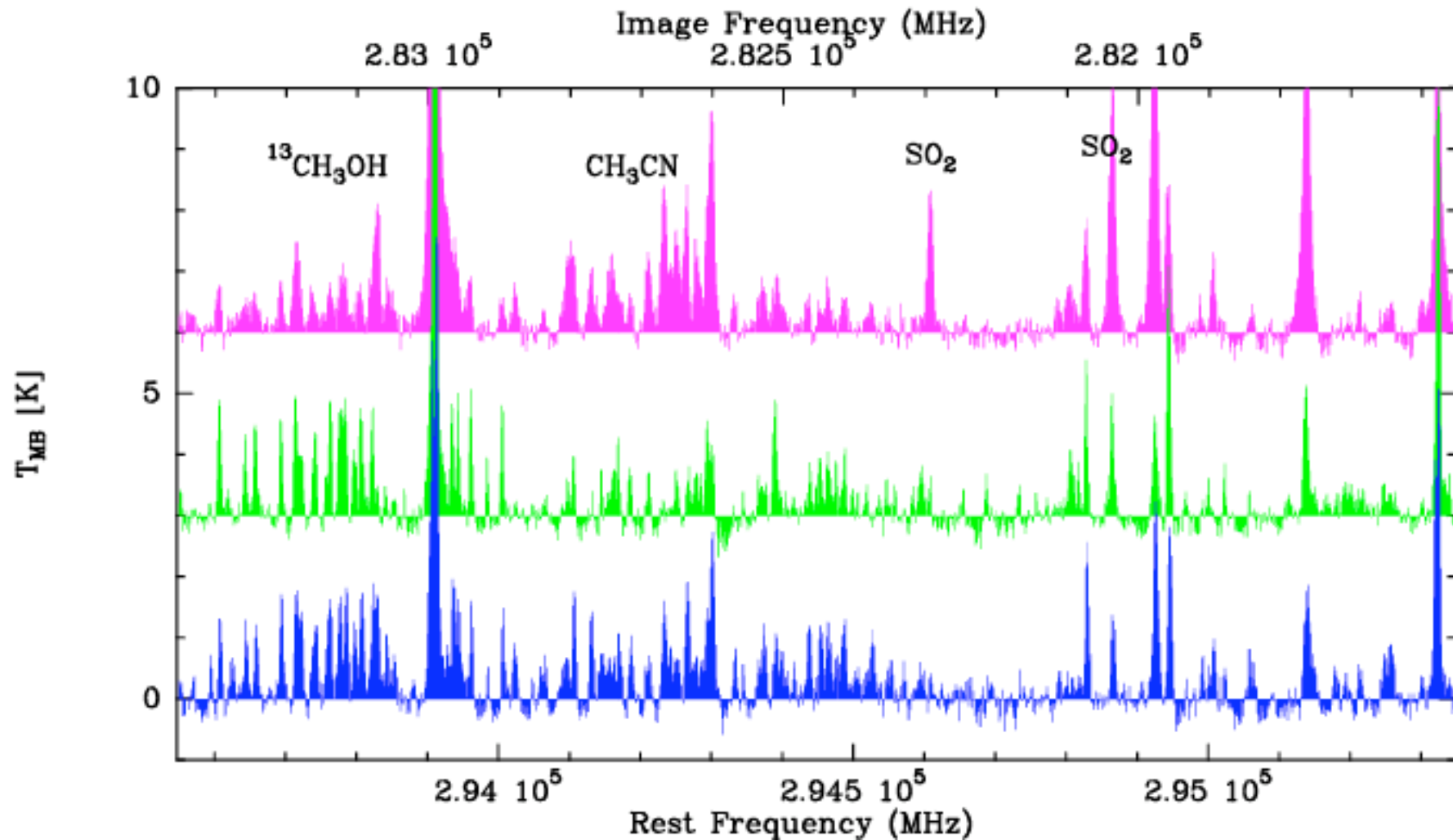


IRAS 17233

NGC 6334-I

G327.3-0.6

APEX observations in the CH₃CN (16_k-15_k) setup





A reminder:

All SMA antennas together reach a collective area similar to that of a few ALMA antennas!

ALMA will detect several sources like IRAS 17233-3606