



SUNDISH PROJECT: SINGLE-DISH SOLAR IMAGING WITH INAF RADIO TELESCOPES

Speaker

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Osservatorio
Astronomico
di Cagliari



8th September 2021

Italian Single-Dish Radiotelescopes



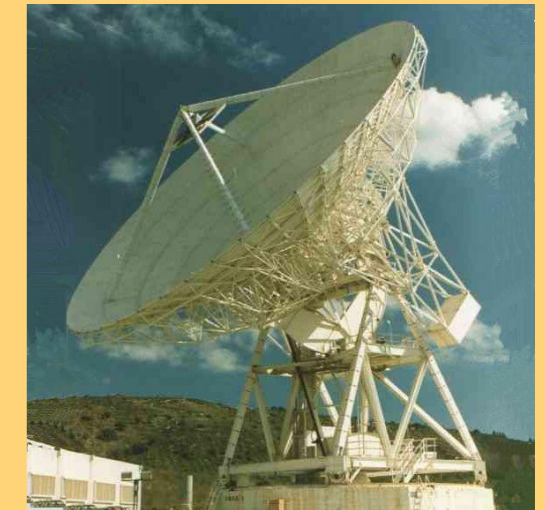
Medicina, 32 m



Sardinia Radio Telescope, 64 m



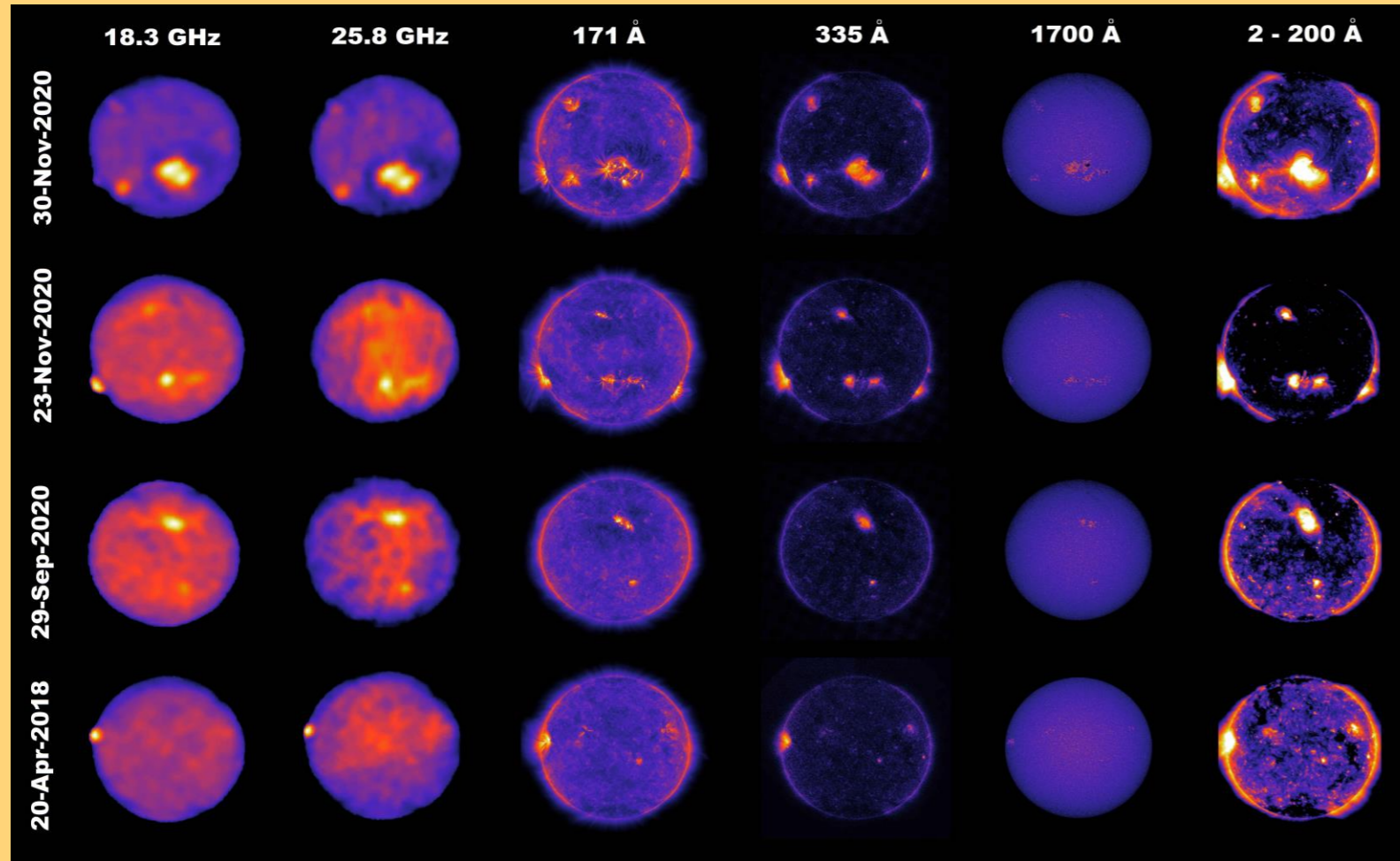
Noto, 32 m



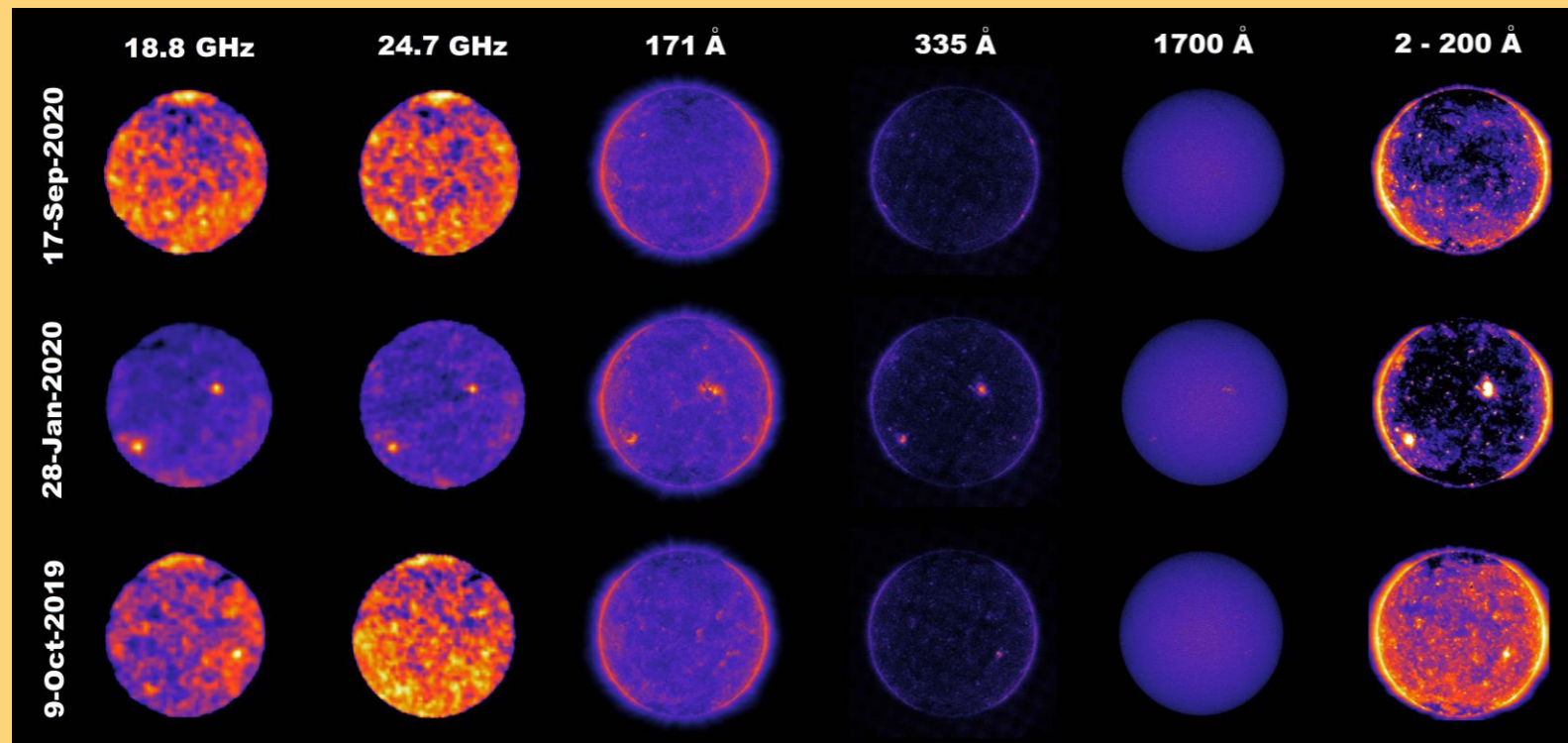
Designed to observe in the **0.3 - 116 GHz** frequency range, presently operating up to **26 GHz**: **spectro-polarimetry**, sensitivity **0.5 - 1 mJy**, resolution up **30''**

www.radiotelesopes.inaf.it
www.srt.inaf.it

One solar observation session per week (on average)



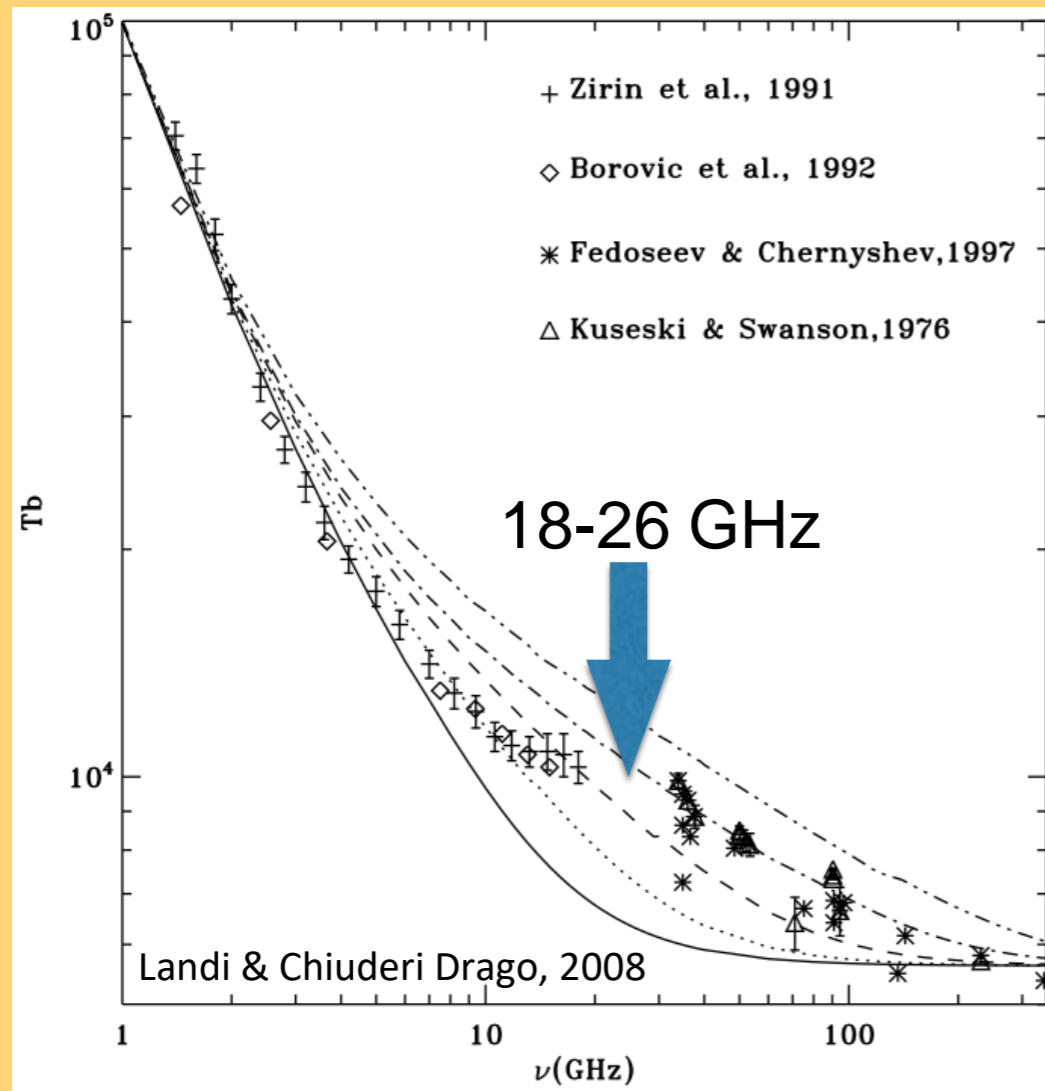
Medicina, 32 m



Sardinia Radio Telescope, 64 m

Single-Dish imaging in K-band

Single-Dish imaging of large structures in the 10-30 GHz is relatively easy and accurate for all resolved spatial scales



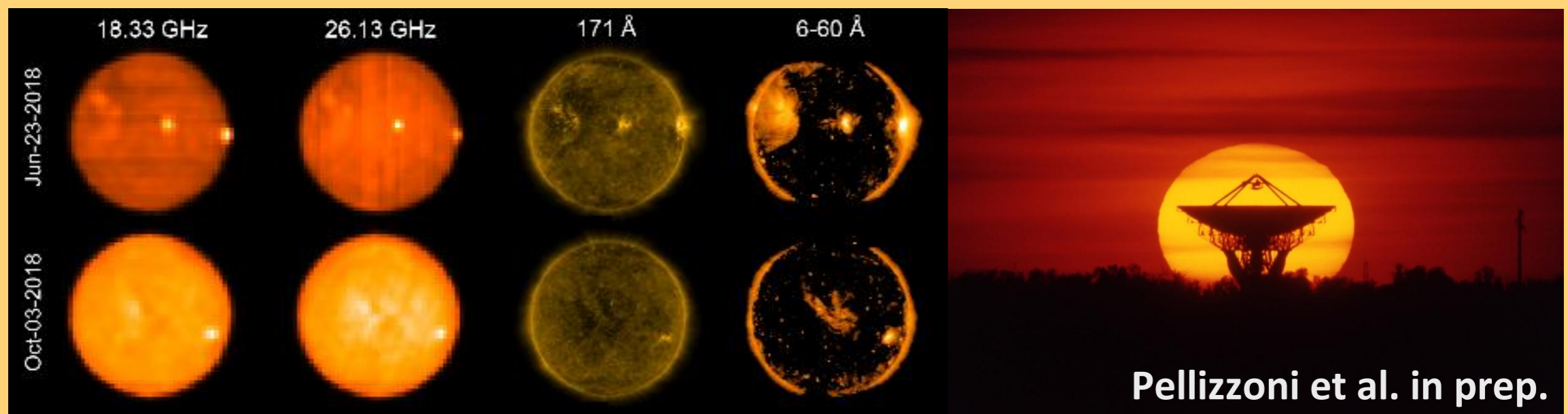
Single dish imaging in K-band is well suited for QS component studies and global monitoring of solar activity at arcmin level.

We are measuring QS brightness temperatures with errors of a few % in the 18-26 GHz range.

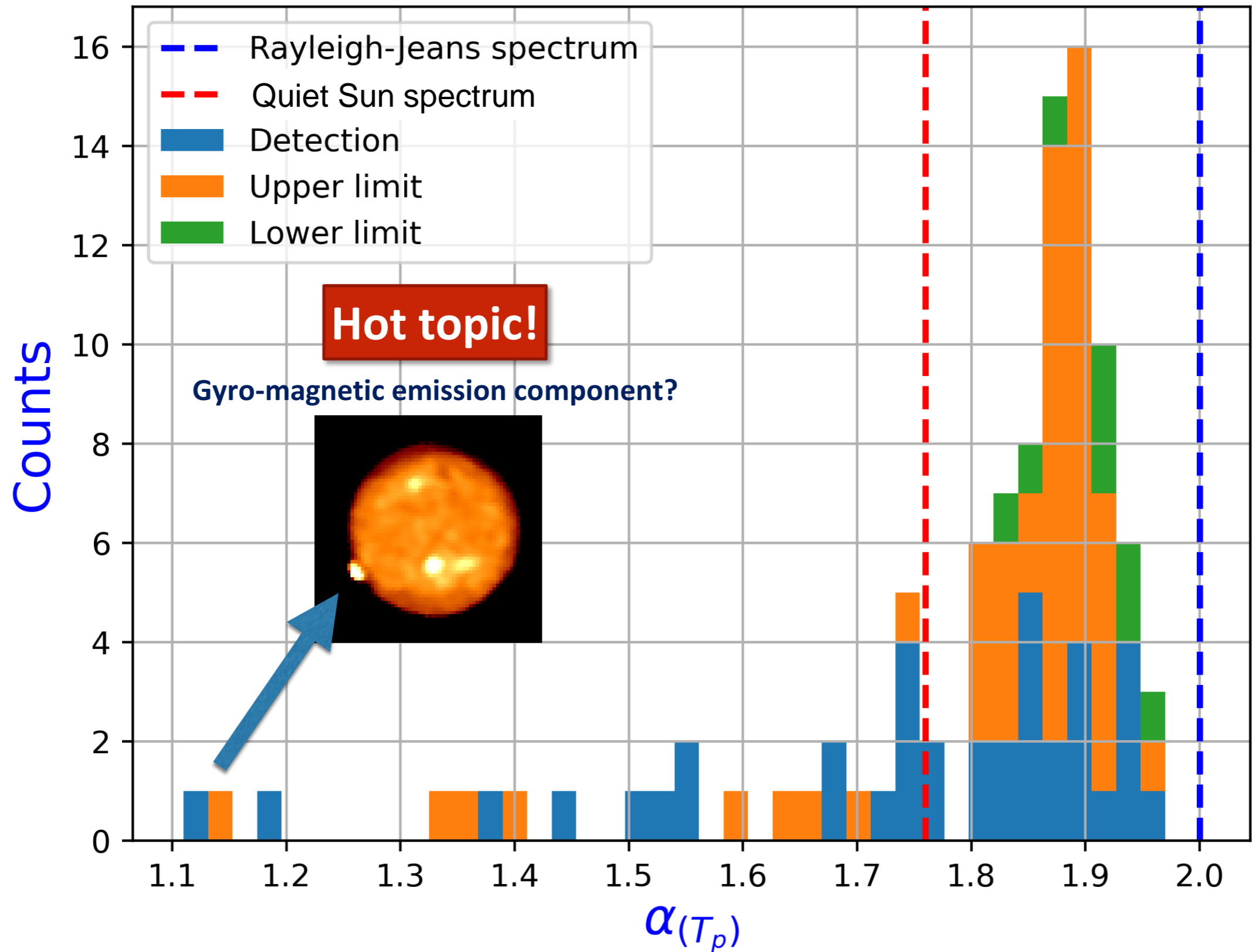
**See Sara Mulas' talk!
Poster session 7.4 (ID #247)**

Science with SunDish

- Accurate mapping of the brightness temperature of the Sun in the 18-26 GHz range (up to 100 GHz in perspective).
- Characterisation of the flux density of the active regions and coronal holes and their spectral properties and evolution.
- **Space Weather applications.** Significant spectral variations of solar active regions could be an important factor in predicting powerful flares and coronal mass ejections.



18-26 GHz spectral index



SunDish project is on line!

Solar radio images and related parameters are published on a dedicated web site including project information

SUNDISH Project

Home

The SunDish Project

Scientific Summary of the Project

Image Gallery

Willing to contribute?

SUNDISH Images Archive

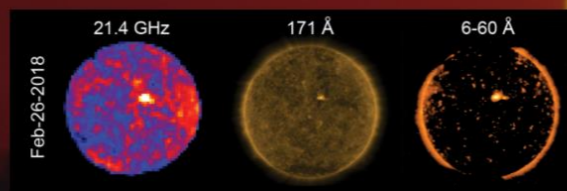
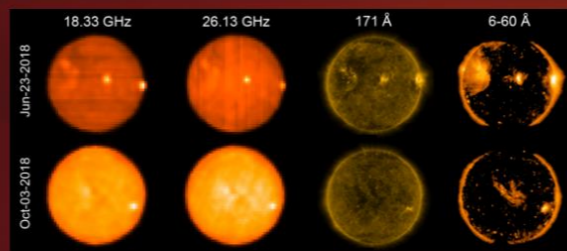
Public Documents and Papers

News from the Sun

Outreach pages

CONTACT US

Internal Documents and Data (access restricted)



SunDish Project

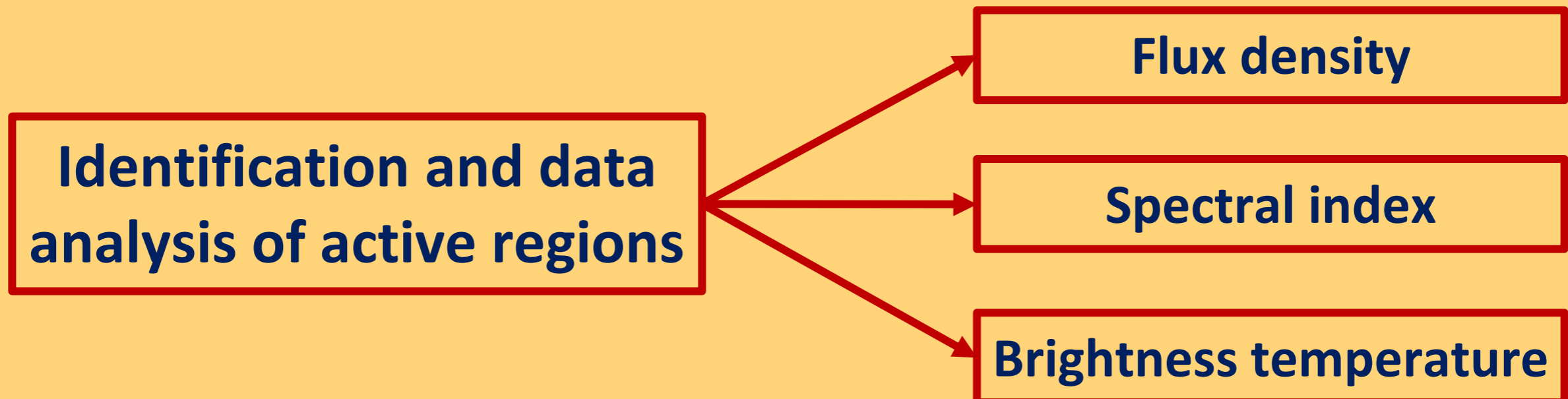
Single-Dish Solar Radio Imaging with INAF Radiotelescopes

<https://sites.google.com/inaf.it/sundish/home>

Scientific analysis of the solar images



SUNDARA
SUNDish Active Region Analyser



Thank you for your attention!

Seeking collaborations for:

- Simultaneous/coordinated observations at lower/higher frequencies
- Data analysis improvement
- Science and Space Weather applications exploitation

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