



SARAO
South African Radio
Astronomy Observatory


History and current status of MeerKAT and SKA

ASSA 2018


PRESENTER: Dr Rob Adam
SARAO Managing Director







The KAT-7 array
on the Losberg
site in the Karoo



KAT-7 antenna
by sunset on the
Losberg site in
the Karoo

Two of the
KAT-7
antennas





The Karoo
landscape in
which the
MeerKAT 64-dish
array is being
constructed

Two MeerKAT
antennas can be
seen rising in the
Karoo landscape



64th MeerKAT
dish lift in
October 2017



An aerial view of
the 64-dish
MeerKAT array



The MeerKAT
array from the
sky



The MeerKAT Site



Aerial view of the
SKA site



A panoramic
view of the
Losberg site and
MeerKAT radio
telescope array
in the Karoo



Large Survey Projects

A call for MeerKAT observing proposals for revised project plans from EIGHT LSPs:

- LADUMA: Looking at the Distant Universe with the MeerKAT Array
- MALS: The MeerKAT Absorption Line Survey
- [MeerKAT Fornax Survey](#)
- MeerTime: The MeerKAT Key Science Project on Pulsar Timing
- MHONGOOSE: MeerKAT HI Observations of Nearby Galactic Objects: Observing Southern Emitters
- MIGHTEE: The MeerKAT International GHz Tuned Extragalactic Exploration Survey
- ThunderKAT: The Hunt for Dynamic and Explosive Radio Transients with MeerKAT
- TRAPUM: Transients and Pulsars with MeerKAT

Rank-ordered list of approved MeerKAT

Large Survey Projects and

compos

1. MeerTime (binary)
2. MHONGOOSE
3. MeerTime (MSPs)
4. LADUMA
5. Fornax
6. TRAPUM (Fermi sources)
7. MeerTime (1000 PTA)
8. ThunderKAT (CVs)
9. MIGHTEE (L band)

10. ThunderKAT (GRBs)
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14. TRAPUM (GCs)
15. TRAPUM (SNR, PWN, TeV)
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MeerKAT

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- LSPs will be allocated 2/3 of the MeerKAT science time to be scheduled for projects selected through competed calls.
- While specific time allocations have not yet been made, the above rank-ordered list represents the MeerKAT LSP approved program of record and it is expected that a very substantial share of the overall required observing time will be scheduled, starting in 2018.



NRAO/SARAO MAPPP NINE

Overview

#MAPPP9



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



SARAO
South African Radio
Astronomy Observatory



MAPPP

- **Multi-wavelength Public Engagement Programme**
- **Collaboration between the National Radio Astronomy Observatory (NRAO), USA and the South African Radio Astronomy Observatory (SARAO)**
- **Co-designed by the NRAO Office for Diversity and Inclusion and the SARAO Communications and Stakeholder Relations Unit**

NINE

- **NRAO National and International Non-Traditional Exchange Program**
- **Uses bilateral partnerships to develop the human capacity in radio astronomy and other essential STEM fields required to build, innovate, and operate radio astronomy facilities in developing countries.**

MAPPP NINE (M9)

Overall objective is to advance the public engagement with astronomy, as well as the science engagement sector in South Africa, by training high-potential members of the sector in project management and using the processes of co-design and co-opetition to develop public engagement initiatives or services that will result in real shift within the sector.

Science Engagement Strategy

Strategic Aim 1: To popularise science, engineering, technology and innovation as attractive, relevant and accessible in order to enhance scientific literacy and awaken interest in relevant careers.

Strategic Aim 2: To develop a critical public that actively engages and participates in the national discourse of science and technology to the benefit of society.

Strategic Aim 3: To promote science communication that will enhance science engagement in South Africa.

Strategic Aim 4: To profile South African science and science achievements domestically and internationally, demonstrating their contribution to national development and global science, thereby enhancing its public standing.

National Strategy for Multi-wavelength Astronomy

Vision

South Africa as a global centre of research excellence for multi-wavelength astronomy

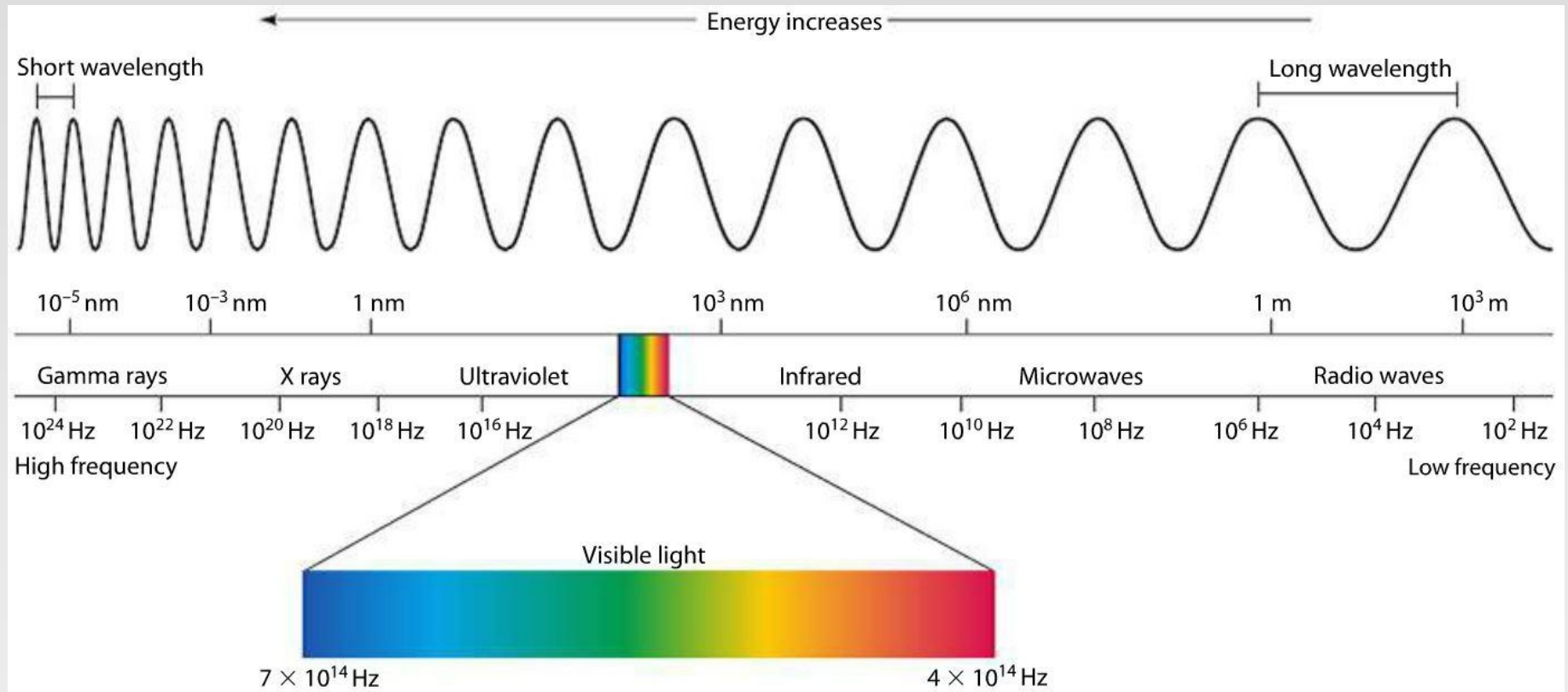
Mission

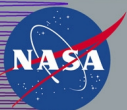
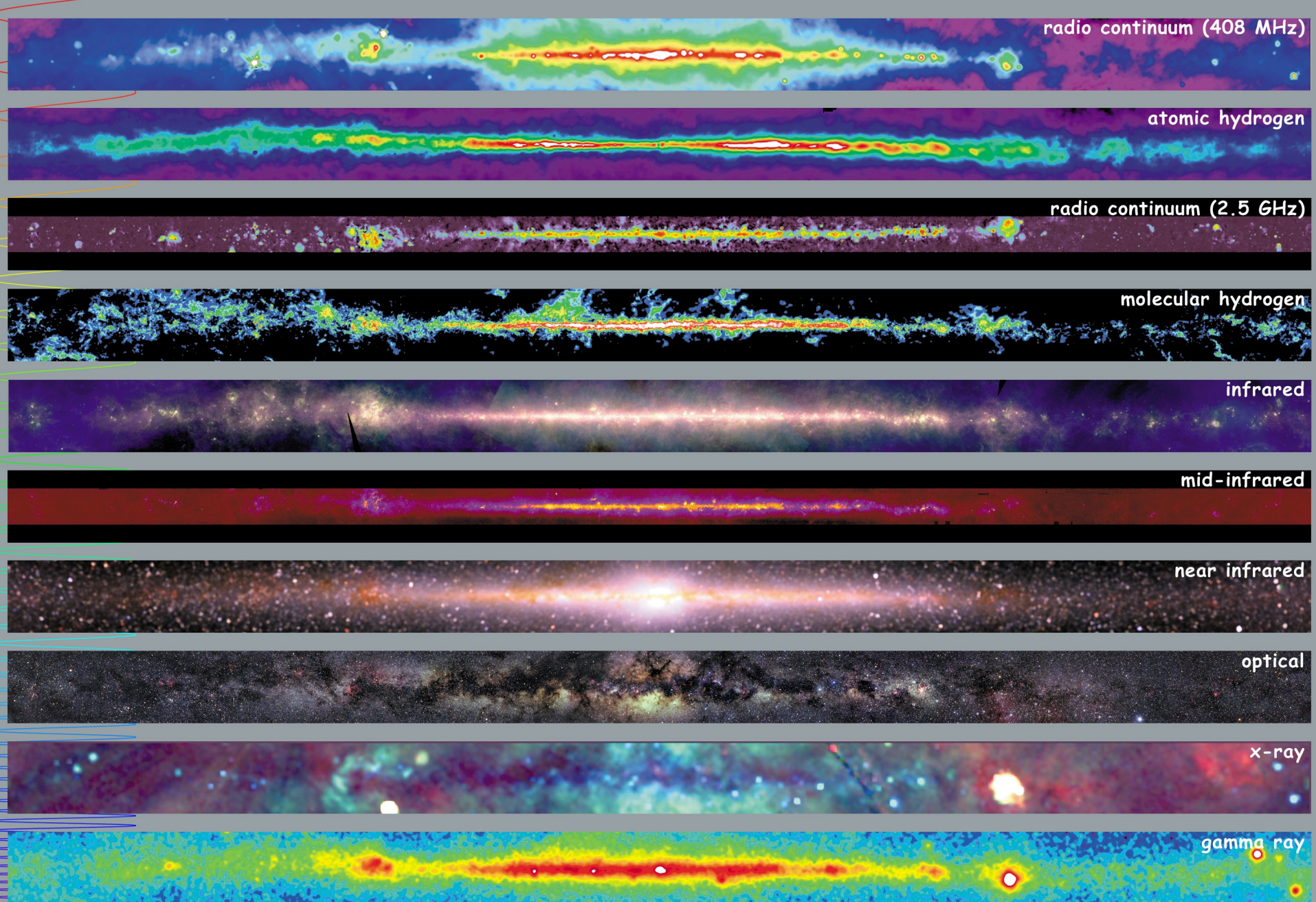
Develop astronomy as a means to stimulate frontier science, cutting-edge technology and human capacity development within South Africa and throughout the African continent

Strategic Objective 3: To support human capital development that is representative of the national demographics and that develops world-class scientific, engineering and technical skills.

Strategic Aim 6: To promote outreach activities in support of public awareness and education

Electromagnetic Spectrum





Multi-wavelength Milky Way

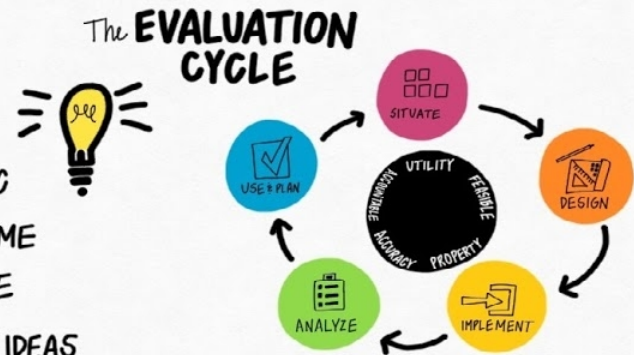
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The M9
participants visiting
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SARAO, a business unit of the National Research Foundation.

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Contact information

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Managing Director: SARAO

Email: rob@ska.ac.za



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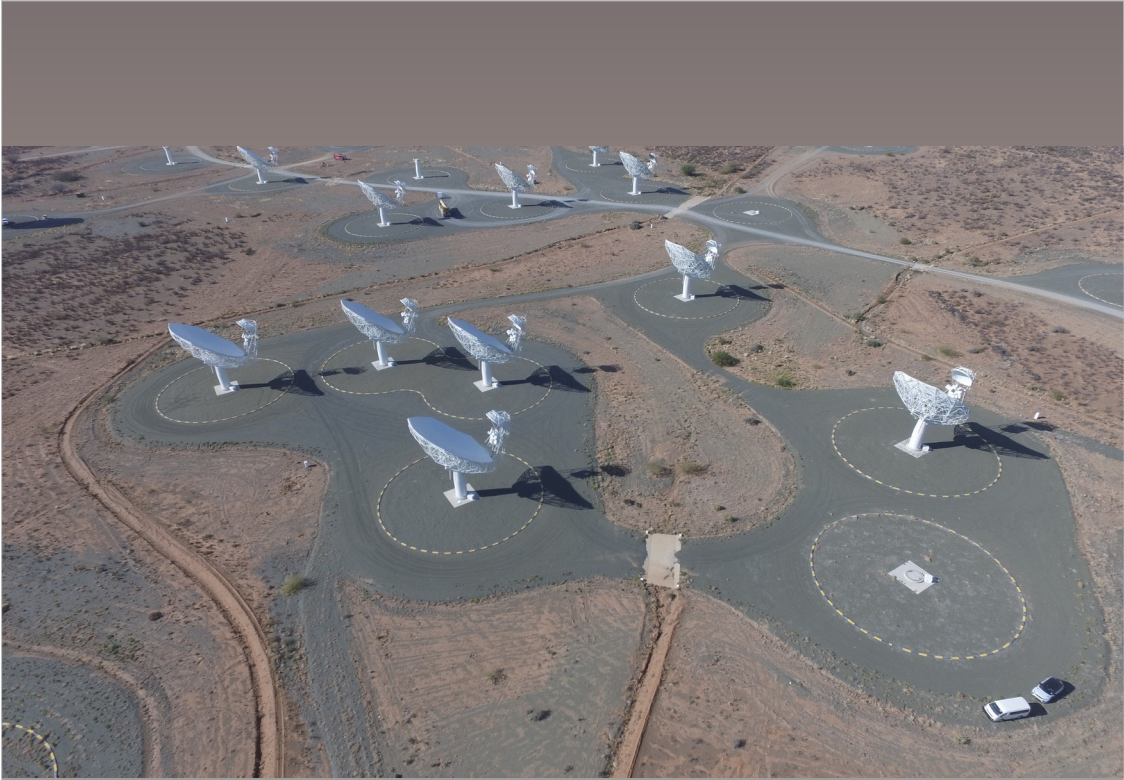
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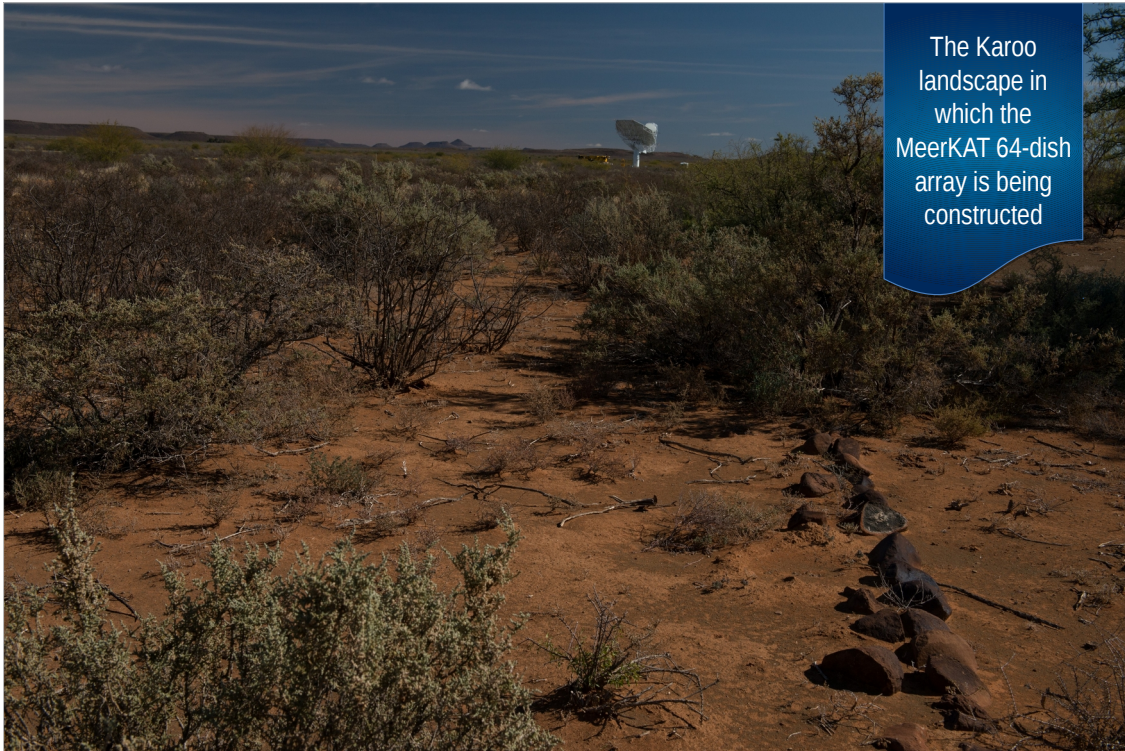
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64th MeerKAT
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An aerial view of
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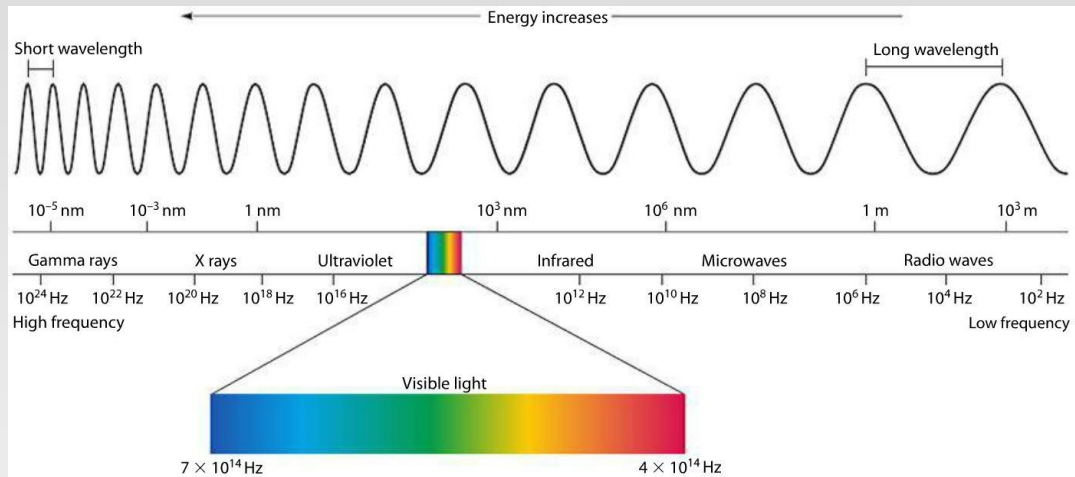
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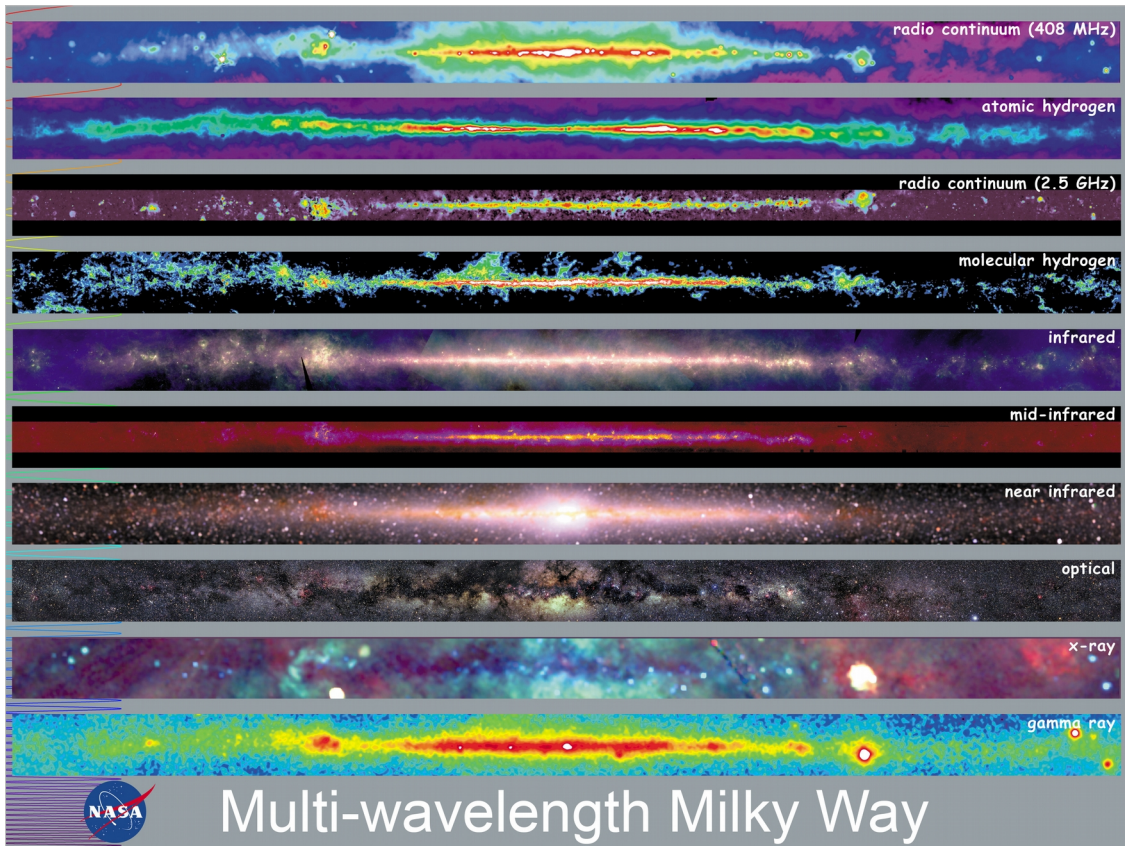
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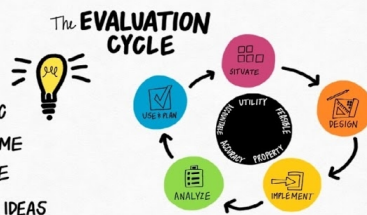


Image: Kate Mytty



The M9 participants visiting the SKA site at Losberg



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