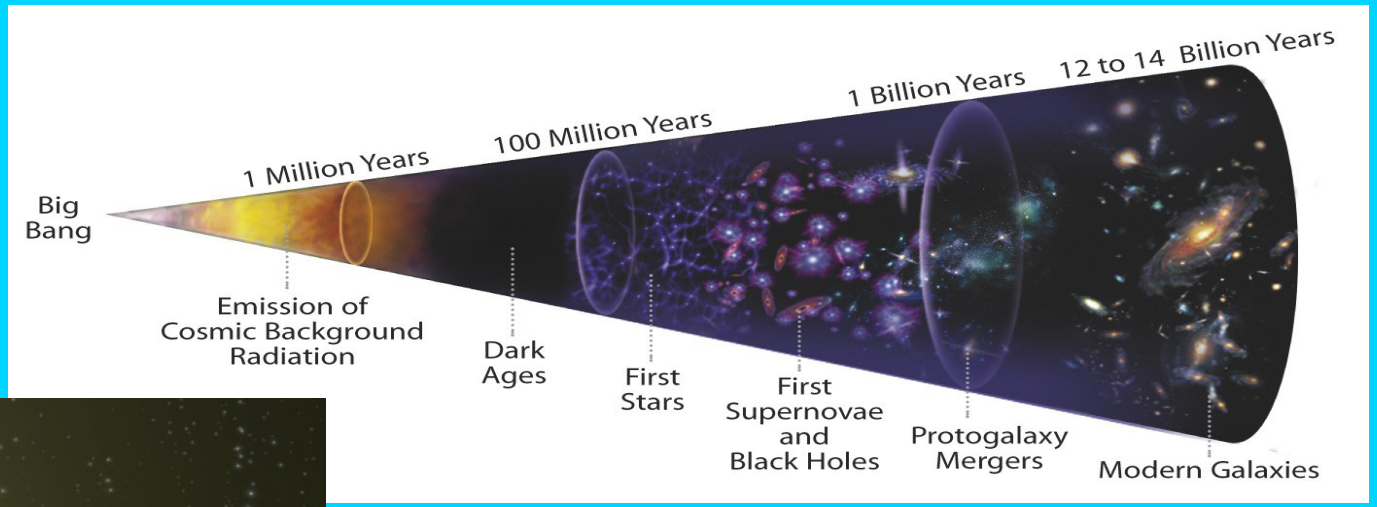
Welcome @ ASTRON



Purpose of the meeting

- Discuss science themes which can be addressed with a long-wavelength interferometer in space, such as DSL
- Discuss the system parameters derived form the science cases

- Discuss the DSL system concepts and related technologies with the aim to clarify the system parameters which define the scientific capabilities
- Discuss the system concept and deployment location

- Prepare next steps in DSL collaboration and in proposal writing

- *Decide on the driving science cases for DSL*
- *Decide how many concept options we keep open for DSL at this point in time*

AGENDA - Monday February 2nd am

09:00 - 09:15 Arrival & welcome

09:15 - 09:45 Introductions

- Welcome & goal of the meeting – Albert-Jan Boonstra
- Introduction and Mission overview – Xiaoyu Hong

09:45 - 10:45 Science cases in relation to system parameters

- EoR/Dark Ages – Leon Koopmans
- Science and system requirements of the imaging survey – Xuelei Chen
- Continuum imaging & surveys (TBD) - Willem Baan
- Source count and confusion limit – Maohai Huang
- Solar system transients - Baptiste Cecconi

10:45 - 11:15 Coffee/tea break + group photo

11:15 - 11:45 Science cases, continued

- Extra-solar system transients - Julien Girard
- Solar-terrestrial physics – Hanna Rothkaehl

11:45 - 13:00 Mission concept descriptions

- Mission concept at Lunar orbit – Jingye Yan
- Satellite and formation flying - Jianhua Zheng
- Mission concept at L2, science & technology – Tao An & Albert-Jan Boonstra

AGENDA - Monday February 2nd pm

13:00-13:30 Lunch

13:30- 14:30 Moon-L2 comparison and astronomy-system mapping

- Moon-L2 comparison, considerations & summary – Albert-Jan Boonstra

14:30-15:00 Discussion

- Open discussion on focus of mission concepts and driving science cases – chair Gert Kruithof

15:00-15:30 Tea/coffee break

15:30-17:00 Discussion

- Continuation of previous session

17:00 End of day 1 sessions; drinks

18:00 Dutch "stamppot" (Mash-Pot) buffet

20:00 End of day one

AGENDA - Tuesday February 3rd am

09:00-10:45 Proposal requirements; management and cooperation scheme

- Overview of proposal requirements – Koos Kegel
- Procurement scheme, Science management plan
- Joint collaboration approach, costing

10:45-11:15 Tea/coffee break

11:15-13:00 Payload meeting

- Instrument(s) needed to achieve the required measurements

(Measurement principle, Block diagram, Design description, Operating principle; Performance budgets; Required resources: volume, mass, power, data transmission; Specific/critical interface requirements; Specific calibration needs (on ground and in-orbit); TRL assessment per unit and relevant heritage; Implementation schedule.)

13:00-13:30 Lunch

AGENDA - Tuesday February 3rd pm

13:00-13:30 Lunch

13:30- 15:00 Mission configuration and profile

- Mission description (orbit, launch, system level req., obs. modes)
- Relevant options and trade-offs
- Operations concept (mission phases from launch to end of life)
- Details of the spacecraft (design, requirement, description, key budgets)

15:00-15:30 Coffee/tea break

15:30-16:00 Mission configuration and profile

- Continuation of previous session

16:30-17:00 Summary and conclusion

- Conclusion of the meeting; summary and next steps

17:00 End of workshop; drinks

DSL Team

- HONG Xiaoyu, AN Tao, Willem Baan et al., ShAO/CAS, **China**
- YAN Jingye, ZHENG Jianhua, CHEN Ding et al., NSSC/CAS, **China**
- WU Xiangping, CHEN Xuelei, LI Di, YAN Yihua, HUANG Maohai, CHEN Linjie et al., NAOC/ CAS, **China**
- Albert-Jan Boonstra, Michael Garrett et al., ASTRON, **NL**
- Leonid Gurvits, JIVE & TU Delft, **NL**
- Eberhard Gill, TUDelft, **NL**
- Henri Werij, TNO Delft, **NL**
- ***Heino Falcke***, Marc Klein-Wolt et al., Radboud University, **NL**
- Leon Koopmans, Groningen University, **NL**
- Mark Bentum, Twente University, **NL**
- Baptiste Cecconi, Philippe Zarka, Observatoire de Paris, **France**
- Michel Tagger, CNRS, Orleans, **France**
- Reza Ansari, Université Paris Sud & LAL, **France**
- Andrea Ferrara, SNS, Pisa, **Italy**
- Hanna Rothkaehl, Space Research Center, **Poland**
- Jan Bergman, Institute of Space Physics, Uppsala, **Sweden**
- Graham Woan, University of Glasgow, **UK**
- plus supporting scientists and engineers (100+) from 17 countries

ESA-CAS proposal requirements

- Proposals have to be co-signed by two co-Pi's
- All preparation and exploitation stages have to be carried out by joint teams
- Payload has to be jointly provided by European and Chinese teams
- Data rights will be in all cases shared
- Operations will be jointly provided by ESA and CAS
- Cost limit for all ESA elements is 53 M; a comparable contribution from CAS
- Letters of Endorsement from the national funding agencies are required
- The mission's space segment will have to be free from ITAR restrictions
- Mission's science objectives: astronomy, solar system science or fundamental physics
- Missions to Moon and Mars are covered under different programmes

ESA-CAS proposal requirements

- Spacecraft launch mass < 300 kg
- Payload mass < 60 kg
- Payload power < 65 W
- Payload technology readiness: TRL ≥ 6 (ISO scale)
- Platform technology readiness: TRL ≥ 7 (ISO scale)
- Lifetime in orbit: 2-3 years
- Potential launchers: Both European launchers (Soyuz or Vega) and Chinese launchers (Long March 2C or 2D)
- Orbit: no a priori limitation, as long as it is compatible with other constraints
- Compatibility with the applicable debris regulations

ESA-CAS Preliminary Timeline And Deadlines

Issue of the joint Call for Missions	19 January 2015
Deadline for the submission of proposals in response to the Call	16 March 2015

Indicative dates for following steps

Scientific peer review	April 2015
Selection of proposal(s) for study	Late 2015
Study phase	2 years
Implementation phase	4 years
Launch	2021