

Update on CMB & The Netherlands

Dorothea Samtleben

- **Core+** European Satellite proposal for mission to study (submitted Jan 2015), launch earliest 2025
- **QUBIC** Main European ground-based effort, data taking 2017++

Core+

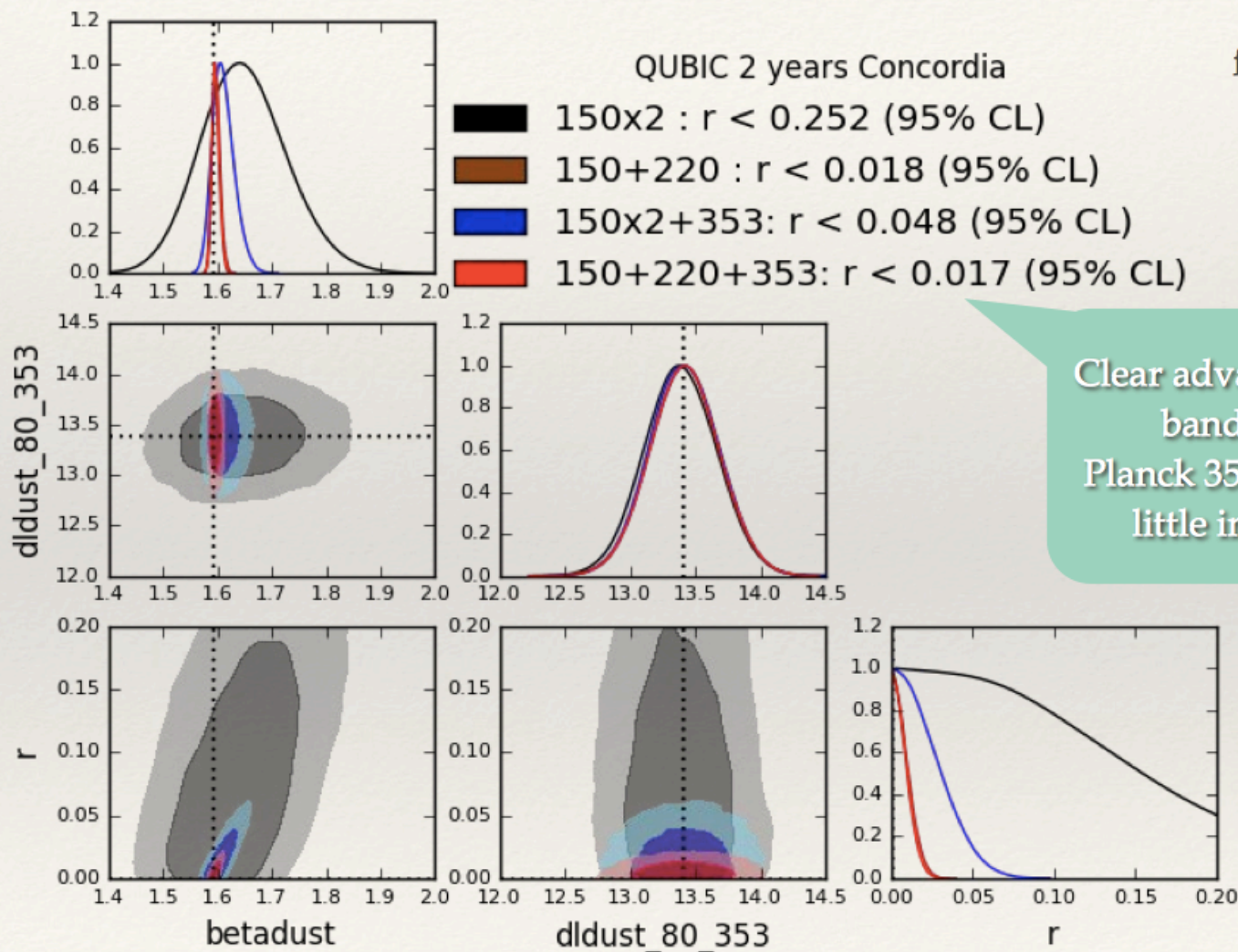
- Exploitation of the Dutch KID detectors (SRON/Delft)

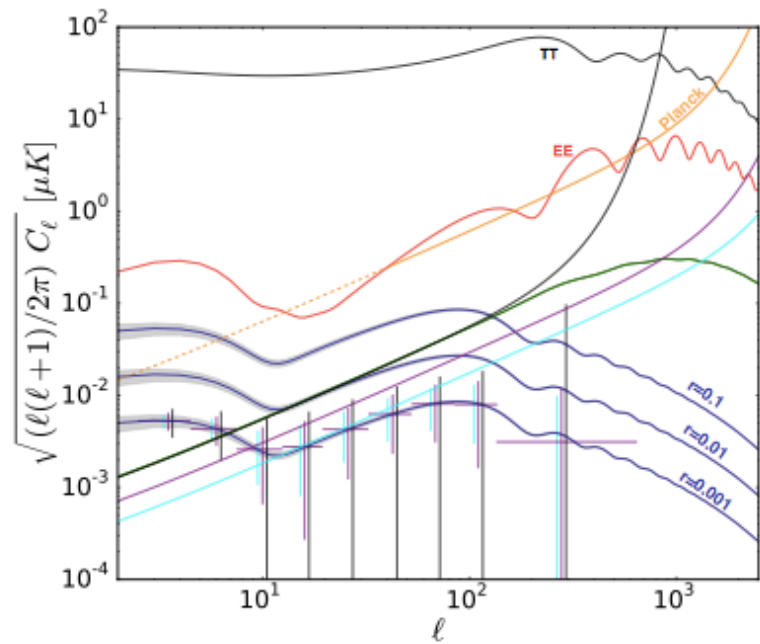
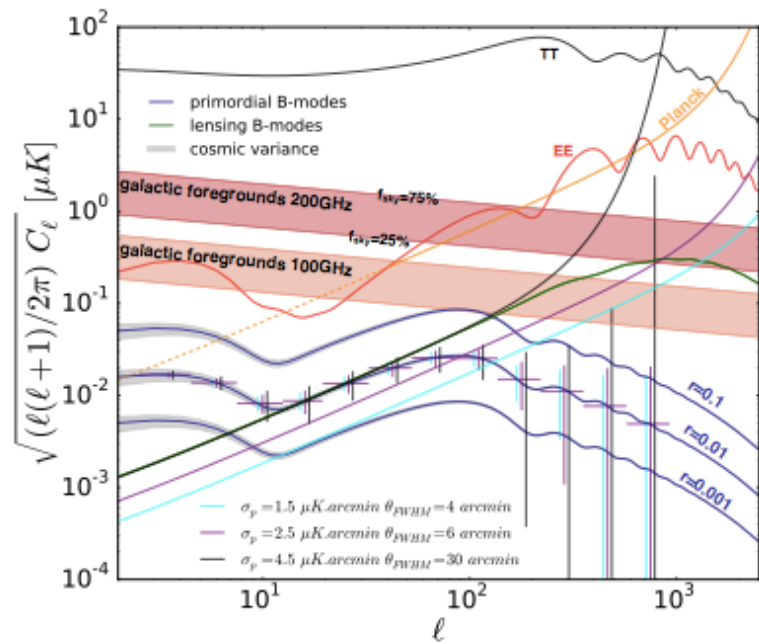
QUBIC

- Concretely looking for a group to take care of designing/building their telescope mount ('commercial' price tag 1M\$)
- Ample opportunities and needs for simulation/analysis involvement
- QUBIC timeline: 2016 Deployment first module, later add 6 modules

fsky=1%

QUBIC 2 years Concordia





***CORe+* project coordination**

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The Lead Proposer is committed to support the study activities by making available more than 20% of his time throughout the study period.

Proposal co-leads: François Bouchet (IAP, Paris); Jacques Delabrouille (APC, Paris)

Steering Committee:

Austria: J. Alves; **Denmark:** P. Naselsky; **Finland:** H. Kurki-Suonio; **France:** F. Bouchet, M. Bucher, J. Delabrouille, M. Giard; **Germany:** E. Komatsu, R. Sunyaev; **Ireland:** N. Trappe; **Italy:** M. Bersanelli, C. Burigana, P. de Bernardis; **Netherlands:** R. van de Weygaert; **Norway:** H.K. Eriksen; **Poland:** A. Pollo; **Portugal:** C. Martins; **Spain:** E. Martínez-González, J.A. Rubiño-Martín, L. Verde; **Switzerland:** M. Kunz; **United Kingdom:** A. Challinor, B. Maffei, G. Pisano; **USA:** S. Hanany.

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CMB & Netherlands

SRON signed the Core+ proposal, willing to investigate on KID contribution

TNO looking into feasibility of mount for QUBIC

(rough design estimate including their engineering expertise)

Last week visit with Ernst-Jan Buis (TNO) and Rudolf LePoole (emeritus Leiden, TNO) to QUBIC collaboration meeting

Italian labs may participate in the mount, will apply to a PNRA call for that. A list of possible contributions has to be made (fore baffle, ground- shield, mount, ...)

AVIS CPST 2014

EVALUATION : A+ POUR LA SCIENCE MAIS FAIRE UN COMITE DE SUIVI INSU, IN2P3, IPEV

AU VU DES RAPPORTS ET SUITE AUX DISCUSSIONS TENUES EN SEANCE, LE CPST EMET L'AVIS SUIVANT :

The detection of B modes of the polarisation of the CMB is a major goal for cosmology. This measure is potentially the only way of testing inflation, its energy scale and the physical processes that produced inflation. This measure is extremely difficult because the signal is extremely weak, foregrounds and systematics effects are numerous and difficult to subtract. The results announced by BICEP2 this year, then their questioning in front of Planck observation, illustrate the difficulty of this measure but also what is at stake. QUBIC with its innovative instrument concept can bring real advances in this field. From a technical point of view the project is very ambitious. The validation of the detection chain is an essential step and has been delayed. The operation of QUBIC at Concordia is a real challenge, because of the infrastructure needed and the high power demand. In addition, despite the efforts of the team, and the arrival of new partners, the budget for the first step of QUBIC is not secured.

The recommendation of the CPST is to accept the project for 4 years. The CPST recommends that IPEV, INSU and IN2P3 set up a steering group to monitor the project, in coordination with PNRA. The first step should be the validation of the detection chain; the results of this validation should be presented to this group before any decision can be taken regarding the implementation of QUBIC at Concordia. The CPST recommends regular discussions between the QUBIC team and IPEV to define the minimal infrastructure and power needed by the experiment.

- A+ = *Excellent projet*
- A = *Très bon projet mais avec d'éventuelles remarques mineures*
- A- = *Bon projet dans son ensemble, mais avec remarques importantes dont il faudra tenir compte lors de la prochaine évaluation*
- B = *Projet à revoir et qui peut être représenté ultérieurement. – projet non retenu en l'état*
- C = *Projet non retenu*

CMB & Netherlands

- Ground & space based initiatives are symbiotic
 - > KID detectors should be explored for upgrade of QUBIC
- Selection of Mission to study in March 2015
 - > if selected already here Dutch involvement
- QUBIC is welcoming Dutch contributions also in the analysis
 - > Strong Impact can still be made here!
 - > within next weeks TNO assessment on mount effort)

LET ME KNOW WHETHER YOU ARE INTERESTED!