

Terry Herter

Chairman of the Board

CCAT Observatory, Inc.

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Memorandum of Understanding between CCAT Observatory, Inc., and the Simons Observatory

For the benefit and interest of both Parties, the goal of this memorandum of understanding is to promote sharing of information between CCAT Observatory, Inc. (CCAT) and the Simons Observatory (SO) (collectively the "Parties") related to telescope development and fielding, site operations and logistics, and direct detection instrumentation development in order to reduce costs, enhance the technical capabilities and scientific complementarity, and benefit from technological, logistic, and scientific synergies between our two projects.

- 1. Telescope Collaboration. The Parties agree to share telescope documentation and designs that were internally developed by either team upon request. Both Parties acknowledge, however, that if proprietary data of any type is requested, a non-disclosure agreement will need to be executed in consultation with the applicable vendor. Notwithstanding the above, non-public documentation developed by the CCAT-prime telescope vendor will not be shared with the SO before the SO telescope request for proposals (RFP) process is complete. After completion of the SO telescope RFP process, this information may also be shared.
 - a. If, after the SO telescope RFP process is complete, SO is interested in selecting the same vendor as CCAT-prime, the Parties will also explore whether it would be beneficial to approach the vendor together to reduce costs and risks for both projects.
 - b. Detailed optical analyses of both telescopes will be shared between the Parties, and they may explore development of telescope technologies such as monolithic mirrors for the next generation cosmic microwave background stage 4 experiment (CMB-S4) with each other and the CMB-S4 community.
- 2. Receiver Collaboration. In the realm of receiver development, plans for direct detection receivers will be shared freely between both teams to encourage complementarity and explore opportunities for cost savings by working with common vendors. Invitations to collaboration meetings can be considered and approved by the collaboration/team hosting the meeting. These initial design exploration steps are expected to be mutually beneficial and are in alignment with requests from the funding agencies for closer coordination of CMB measurements as the community works towards CMB-S4.

3. Site Operations and Logistics. The teams will explore whether it is mutually beneficial to coordinate aspects related to operations in Chile, such as considerations for power and data transmission, the acquisition and maintenance of vehicles, low elevation facilities to provide laboratory space and living accommodations, and shared site engineers and other support personnel.

Team leaders will be identified as primary points of contact between the collaborations. If specific agreements are made to share costs or other resources, now or in the future, separate agreements will be developed with approval from the boards of both projects at that time.

Signed and Agreed,

TERRY L. HERTER
Chairman of the Board
CCAT Observatory, Inc.

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Date: April 20, 2017

MARK DEVLIN

Spokesperson and Authorized Representative

Simons Observatory

Mark Jul.

Date: April 25, 2017