

TOLIMAN MISSION

IN SEARCH OF EXTRATERRESTRIAL LIFE

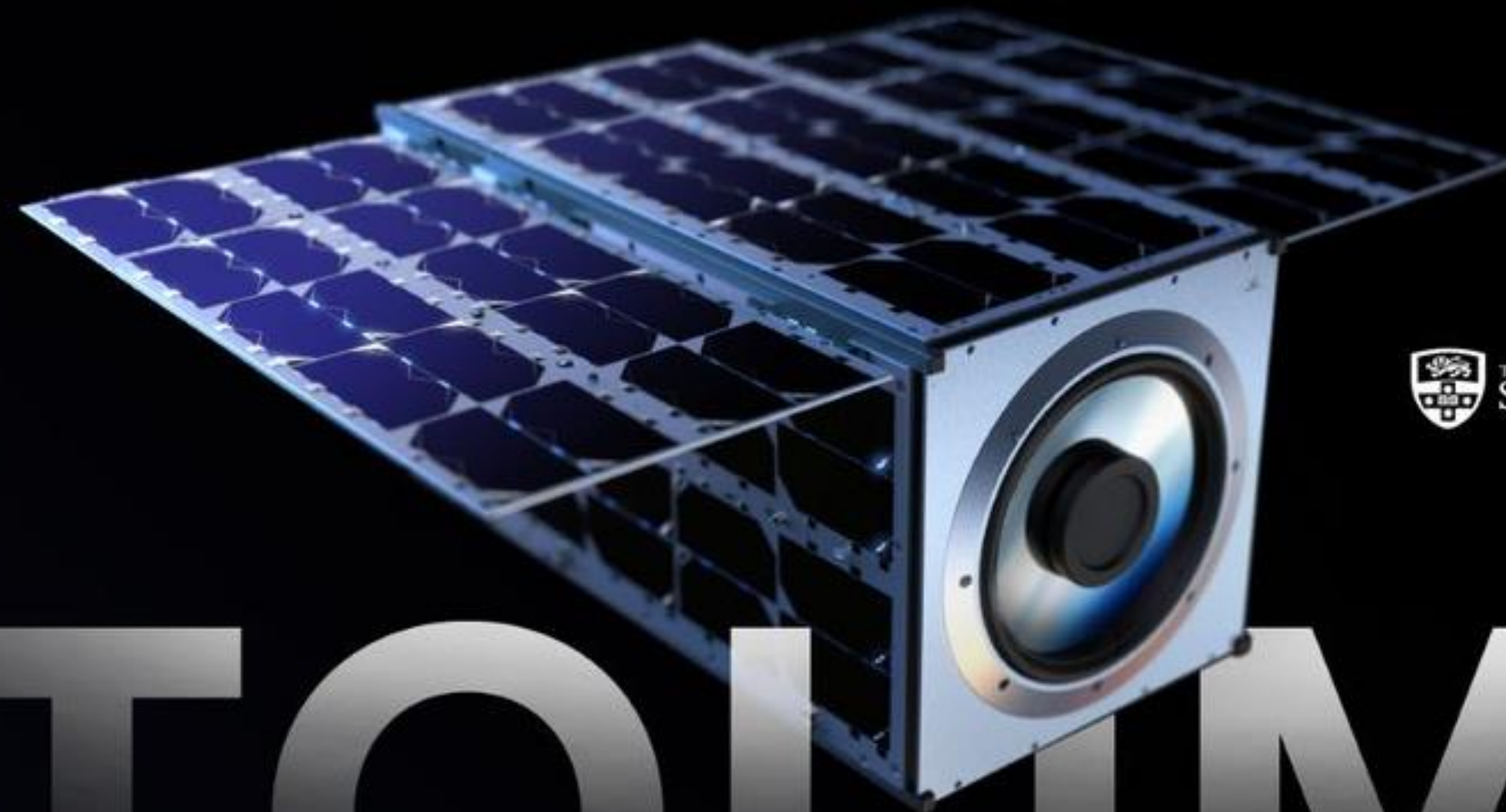
Why TOLIMAN?

Mission Overview

CubeSat Design

Challenges

SPACE
IS
CLOSER
THAN
YOU
THINK



BREAKTHROUGH
INITIATIVES



TOLIMAN

M I S S I O N

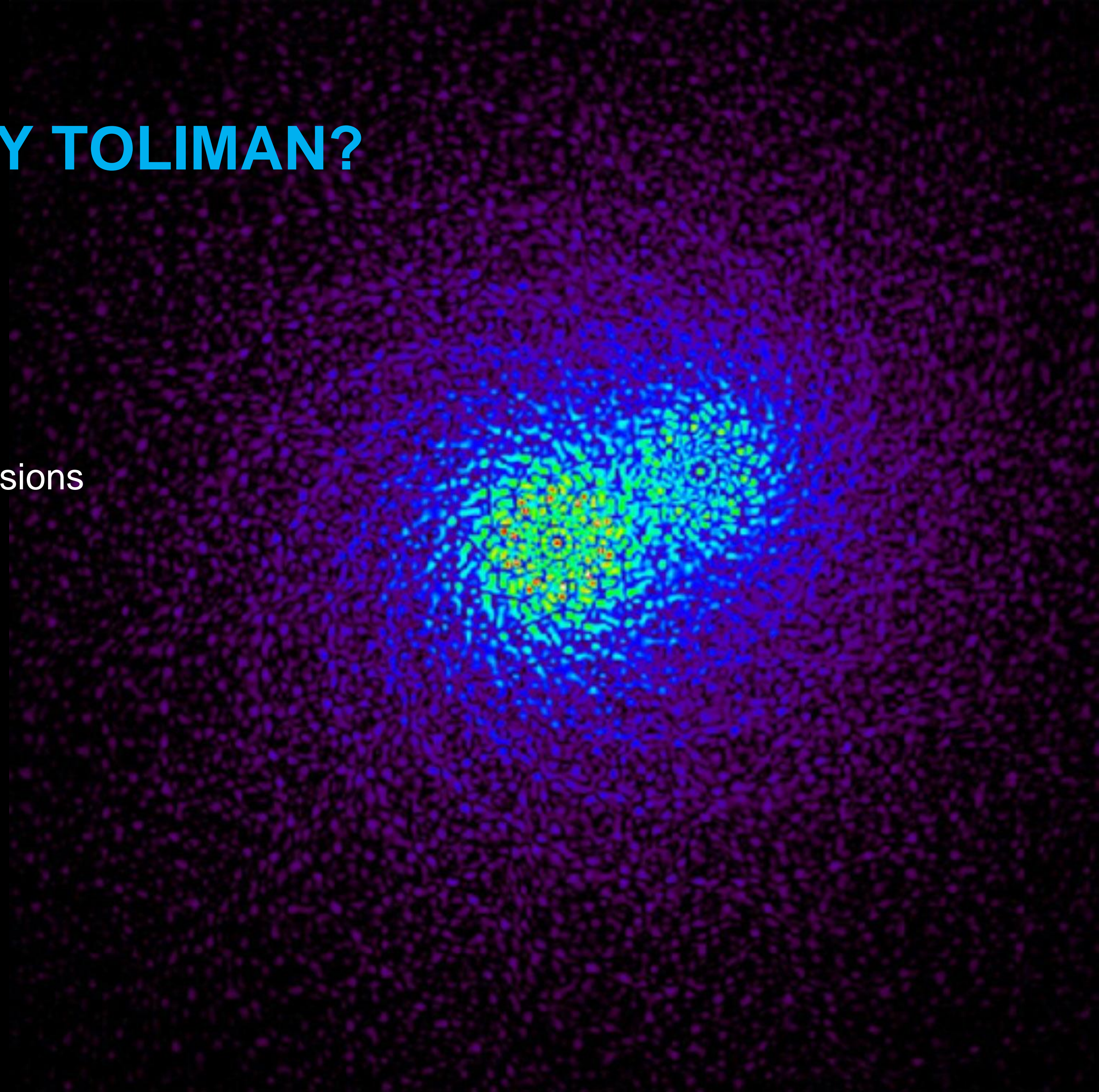
WHY TOLIMAN?

Nearest Sun-like stars

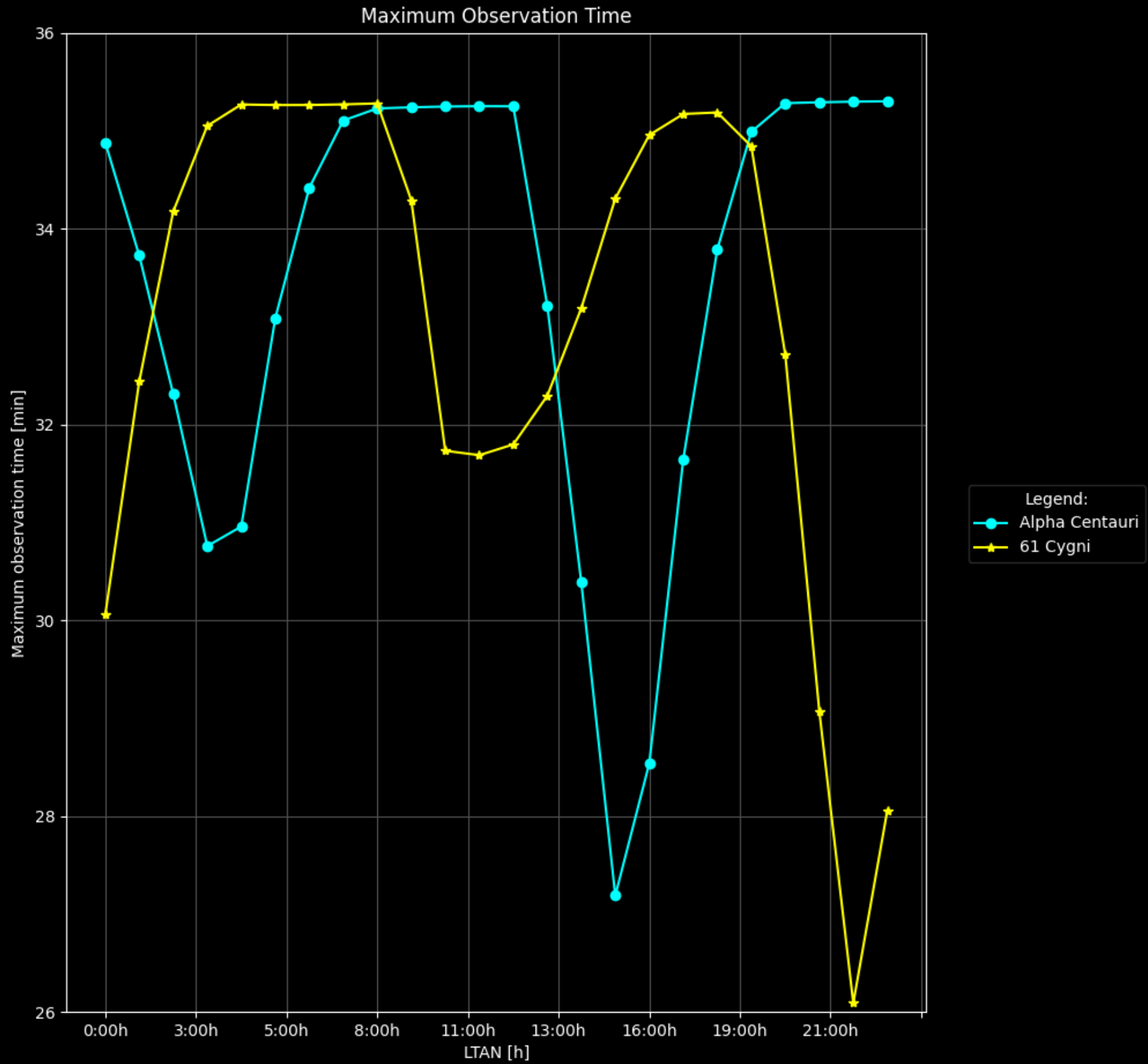
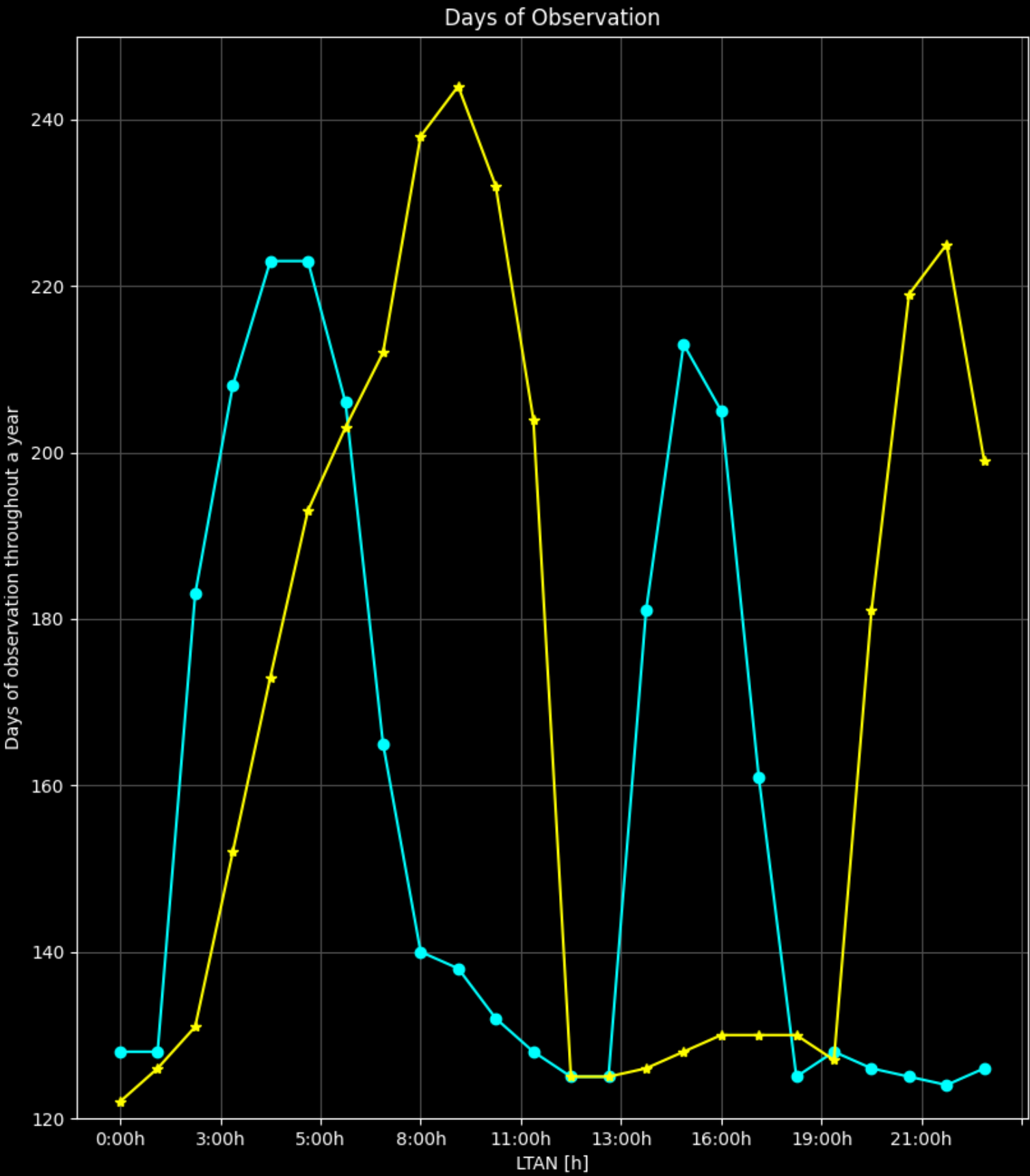
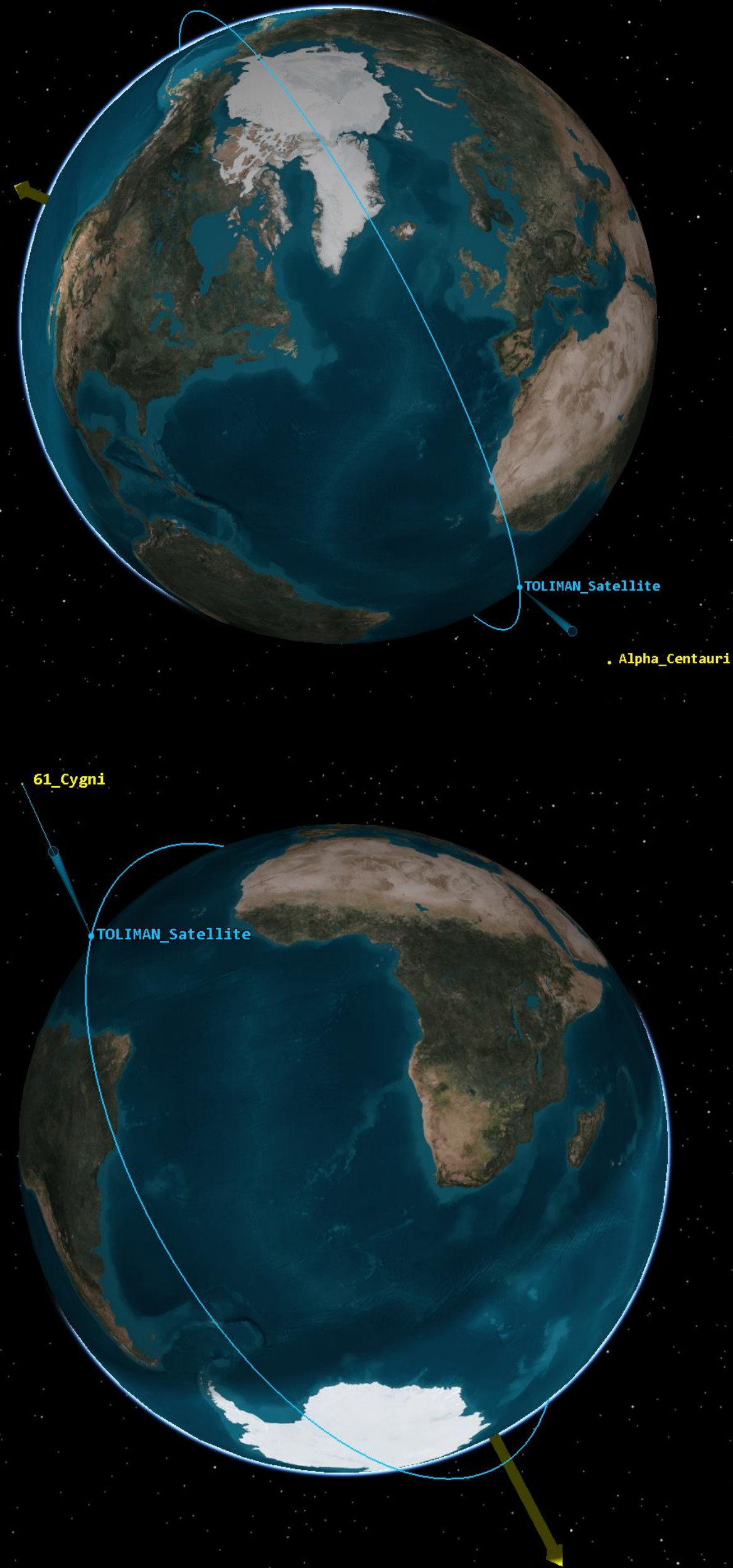
Low-cost initial scientific assessment

Prove CubeSat usability for scientific missions

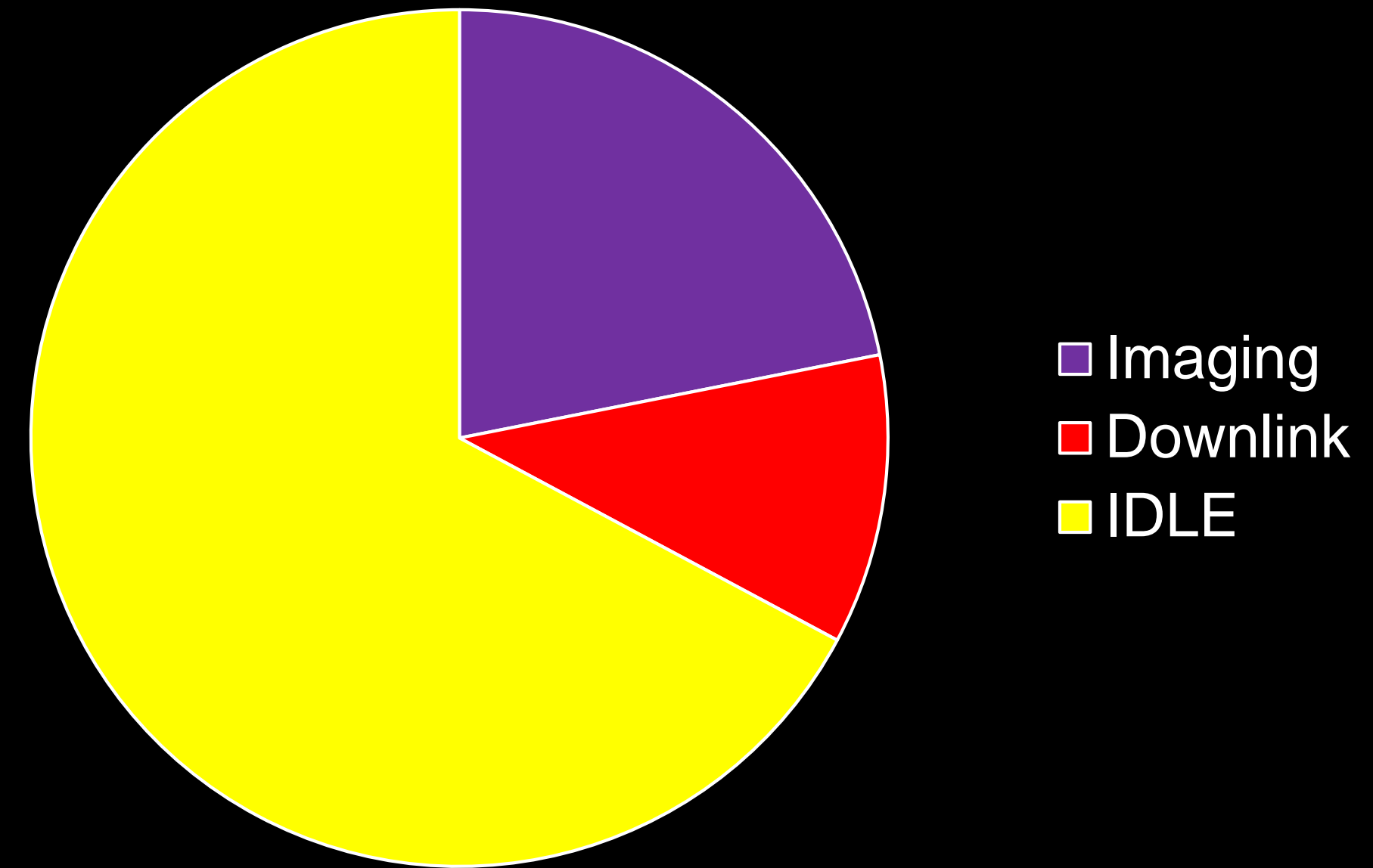
To find if we're alone



MISSION OVERVIEW



MISSION OVERVIEW



Telescope image acquisition



Initial processing and storage in payload computer



Storage and preparation to send data to ground in X-band Tx



Send to ground via X-band (DVB-S2)

CUBESAT DESIGN

16U, 16 kg

8U Payload bay

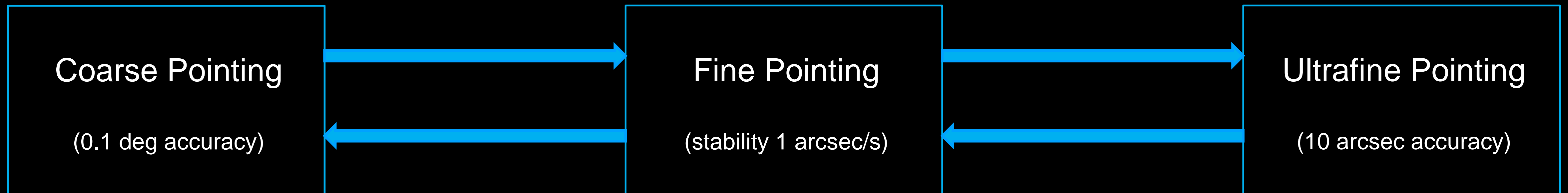
125 Mbps payload data downlink

10 arcsec accuracy

1 arcsec/s stability

CHALLENGES

AOCS



Thermal

20 ± 0.1 deg C

Thermal isolation of payload and bus
Imaging sessions under same environmental conditions
Temperature sensor model in thermal control algorithm
Film-type heaters for larger surface areas

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