## Active projects

#### Interference from satellite constellations

- Satellite constellations are on the rise (~1m satellites proposed!) .
  - Reduced launch costs, significant commercial interest
  - Starlink, OneWeb, IRIS2, China, US military, ...
- Active transmissions at 10-20 GHz so far. 30, 40, 70, 120-170 GHz proposed!
- Also thermal black-bodies, will see at higher frequencies?
- Very fast moving (~0.5deg/sec), may appear as glitches or transients
- SO benefits from the ALMA radio quiet zone, where Starlink avoids transmissions
- However, will still see Starlink in sidelobes, plus OneWeb etc. that can't avoid transmissions (fixed dishes, not phased arrays)
- (Protection is only in Chile, not in Bolivia or Argentina)
- (Also unintentional lower-frequency emissions)



Starlinks

3000

1000

Maneuverable Active Satellites

on-maneuverable Active Sate

## Active projects

# SIMONS

#### Interference from satellite constellations

- SCUBA2/JCMT proposal accepted to look at International Space Station and BlueWalker3 (big satellites expected to be bright). Peel PI.
  - Observations later this year! Tricky and unusual observations
  - Have to point to predicted positions and observe transit in <1s
  - If successful, can follow up with Starlink/OneWeb/etc.
- Existing observations with ACT? (Emily Biermann et al.)
  - They see ISS, but fainter than expected, and variable more study needed
  - Maybe could lead to an ACT paper on satellites?
  - (Allen Foster is already working on an SPT paper on satellites, and rocket boosters e.g. LVM3)
- International links via IAU CPS
  - cps.iau.org IAU centre working on the impact of satellite constellations on astronomy overall
  - Significant optical impact, plus radio impact submm/thermal impact is a new issue there
  - Shared interests, e.g., knowing accurate positions of satellites
  - Mike Peel is a co-lead of SatHub, part of CPS involved in ongoing global conversations on this 18

