

A Collection of Middle Corona Related Slides

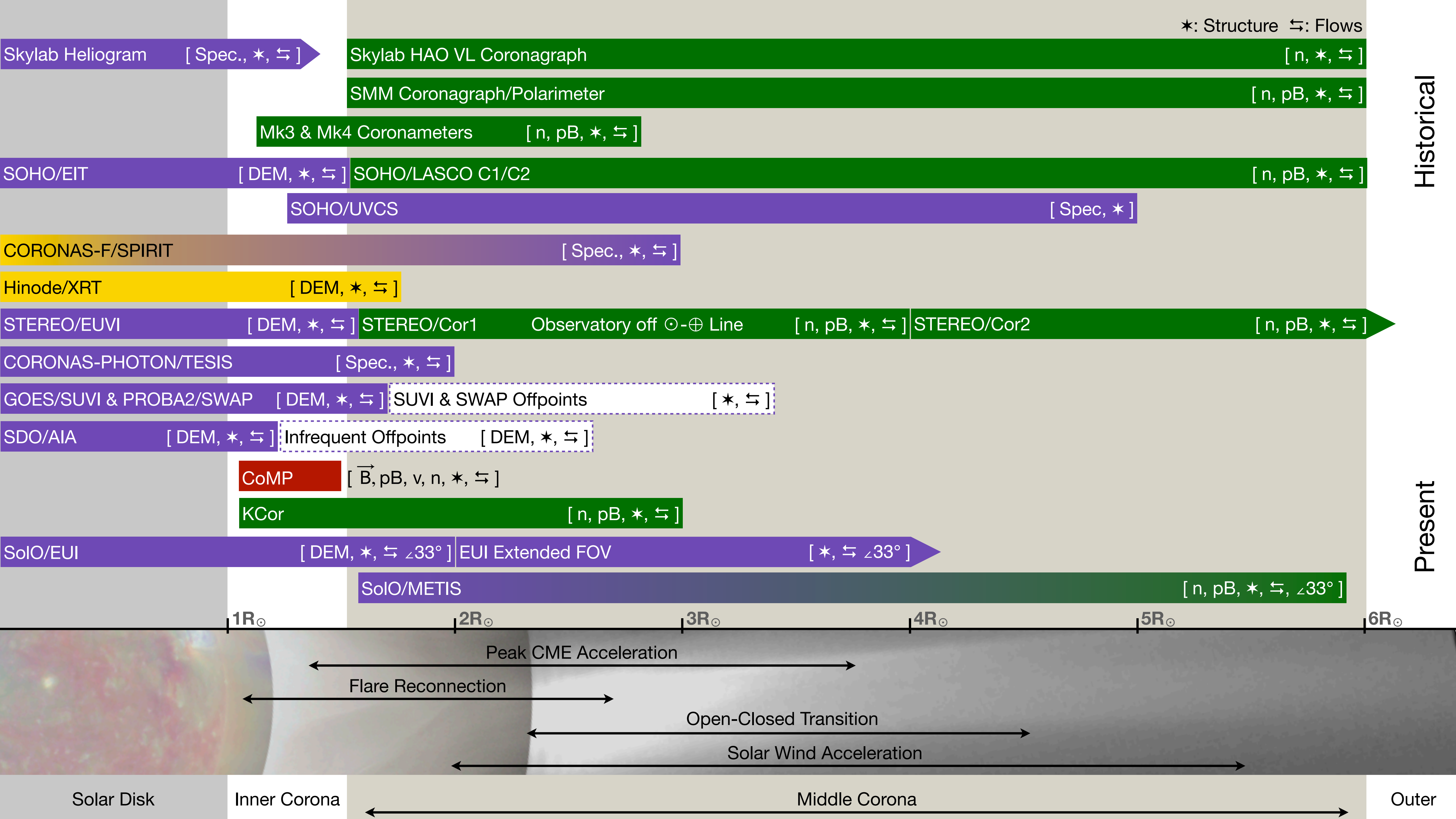
Please credit as you see fit:

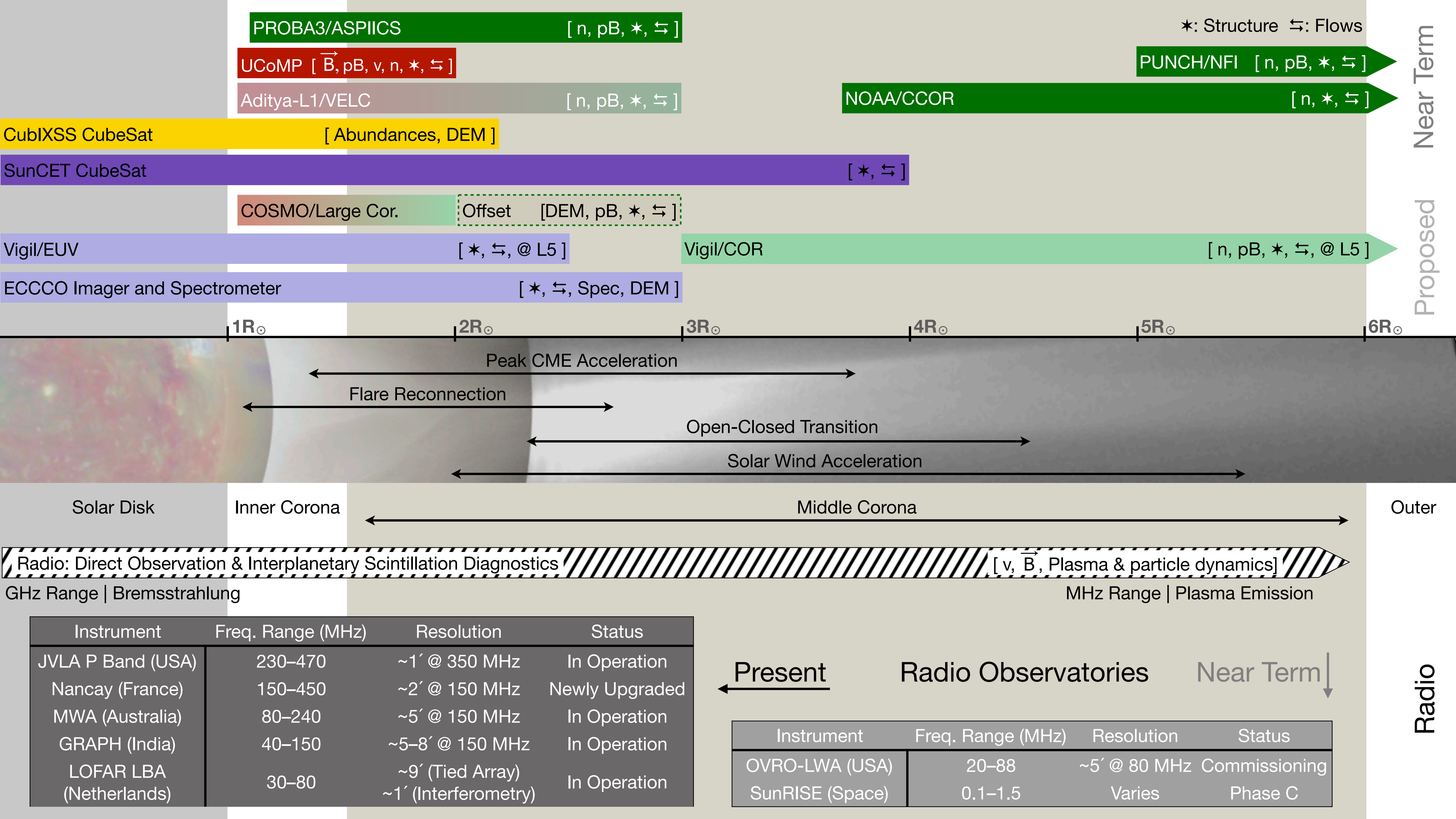
From: *Defining the Middle Corona*, Solar Physics Journal (2023)

Or, use the Defining the Middle Corona QR code:



Mission Summary Figures





PROBA3/ASPIICS [n, pB, *, ⇄]

UCoMP [\vec{B} , pB, v, n, *, ⇄]

Aditya-L1/MELC [n, pB, *, ⇄]

NOAA/CCOR [n, *, ⇄]

PUNCH/NFI [n, pB, *, ⇄]

CubIXSS CubeSat [Abundances, DEM]

SunCET CubeSat [*, ⇄]

COSMO/Large Cor. Offset [DEM, pB, *, ⇄]

Vigil/EUV [*, ⇄, @ L5] Vigil/COR [n, pB, *, ⇄, @ L5]

ECCCO Imager and Spectrometer [*, ⇄, Spec, DEM]

1R_⊙ 2R_⊙ 3R_⊙ 4R_⊙ 5R_⊙ 6R_⊙

Peak CME Acceleration

Flare Reconnection

Open-Closed Transition

Solar Wind Acceleration

Solar Disk

Inner Corona

Middle Corona

Outer Corona

Radio: Direct Observation & Interplanetary Scintillation Diagnostics [v, \vec{B} , Plasma & particle dynamics]

GHz Range | Bremsstrahlung

MHz Range | Plasma Emission

Instrument	Freq. Range (MHz)	Resolution	Status
JVLA P Band (USA)	230–470	~1' @ 350 MHz	In Operation
Nancay (France)	150–450	~2' @ 150 MHz	Newly Upgraded
MWA (Australia)	80–240	~5' @ 150 MHz	In Operation
GRAPH (India)	40–150	~5–8' @ 150 MHz	In Operation
LOFAR LBA (Netherlands)	30–80	~9' (Tied Array) ~1' (Interferometry)	In Operation

Present ← Radio Observatories → Near Term ↓

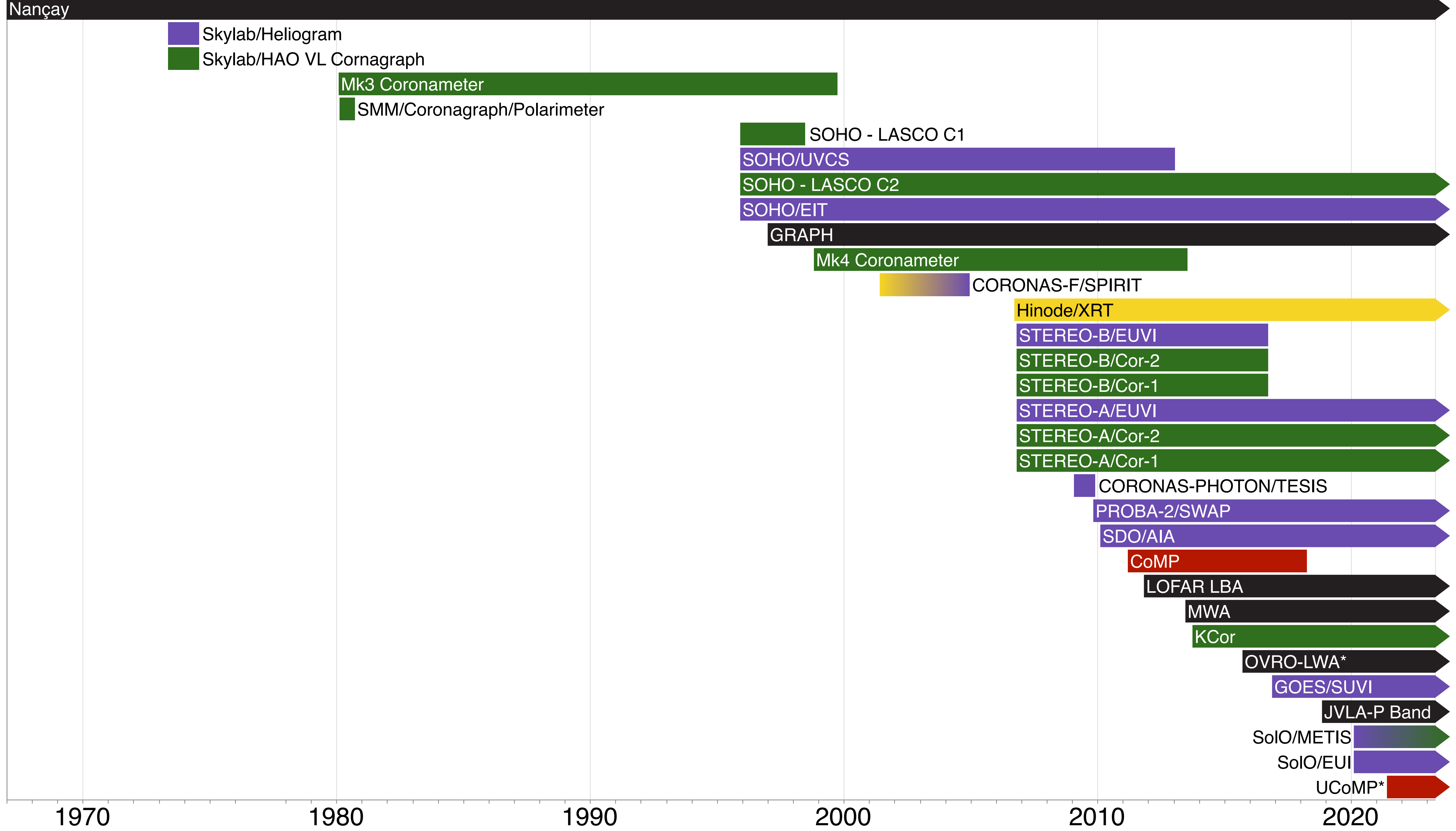
Instrument	Freq. Range (MHz)	Resolution	Status
OVRO-LWA (USA)	20–88	~5' @ 80 MHz	Commissioning
SunRISE (Space)	0.1–1.5	Varies	Phase C

Near Term

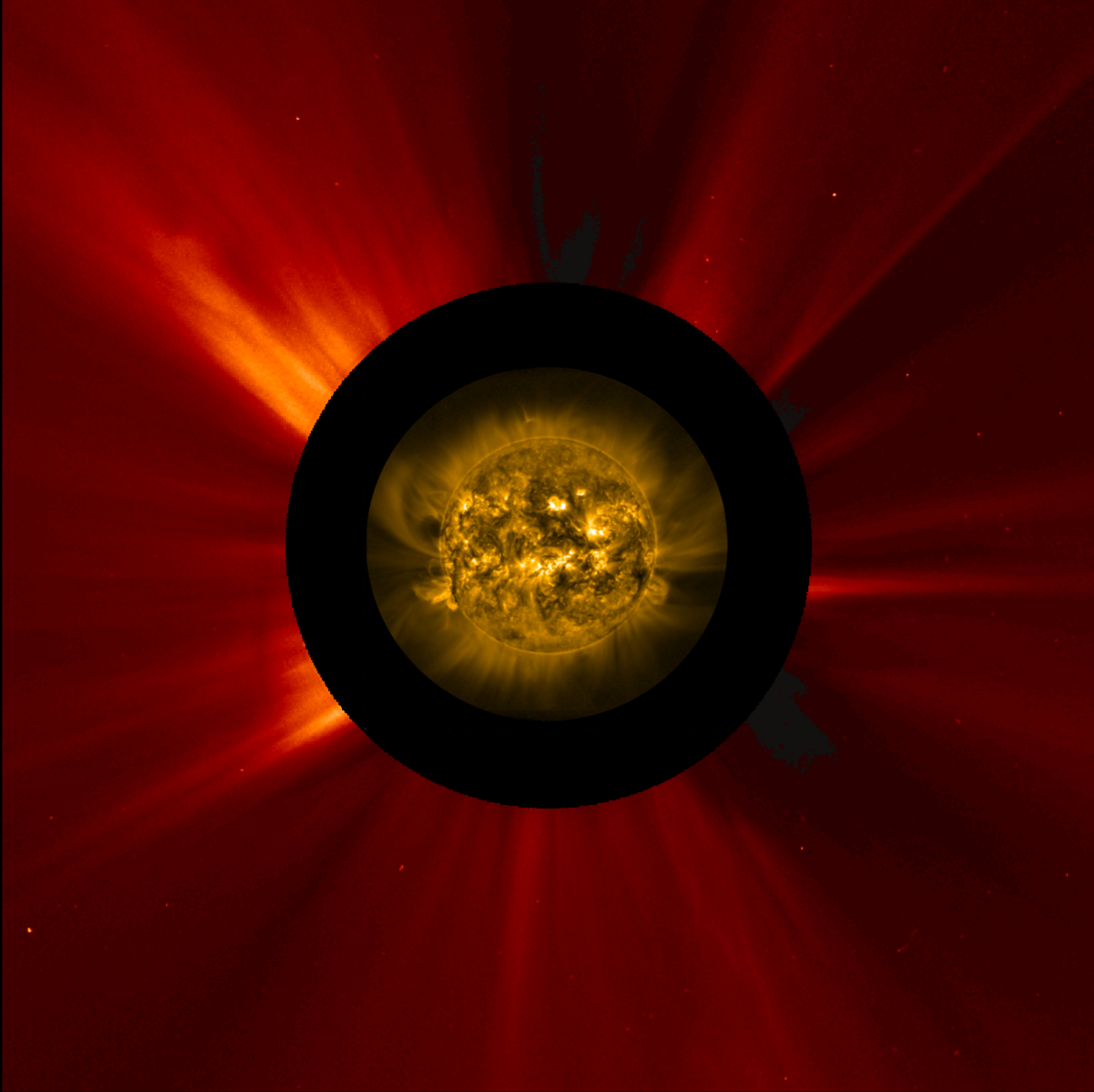
Proposed

Radio

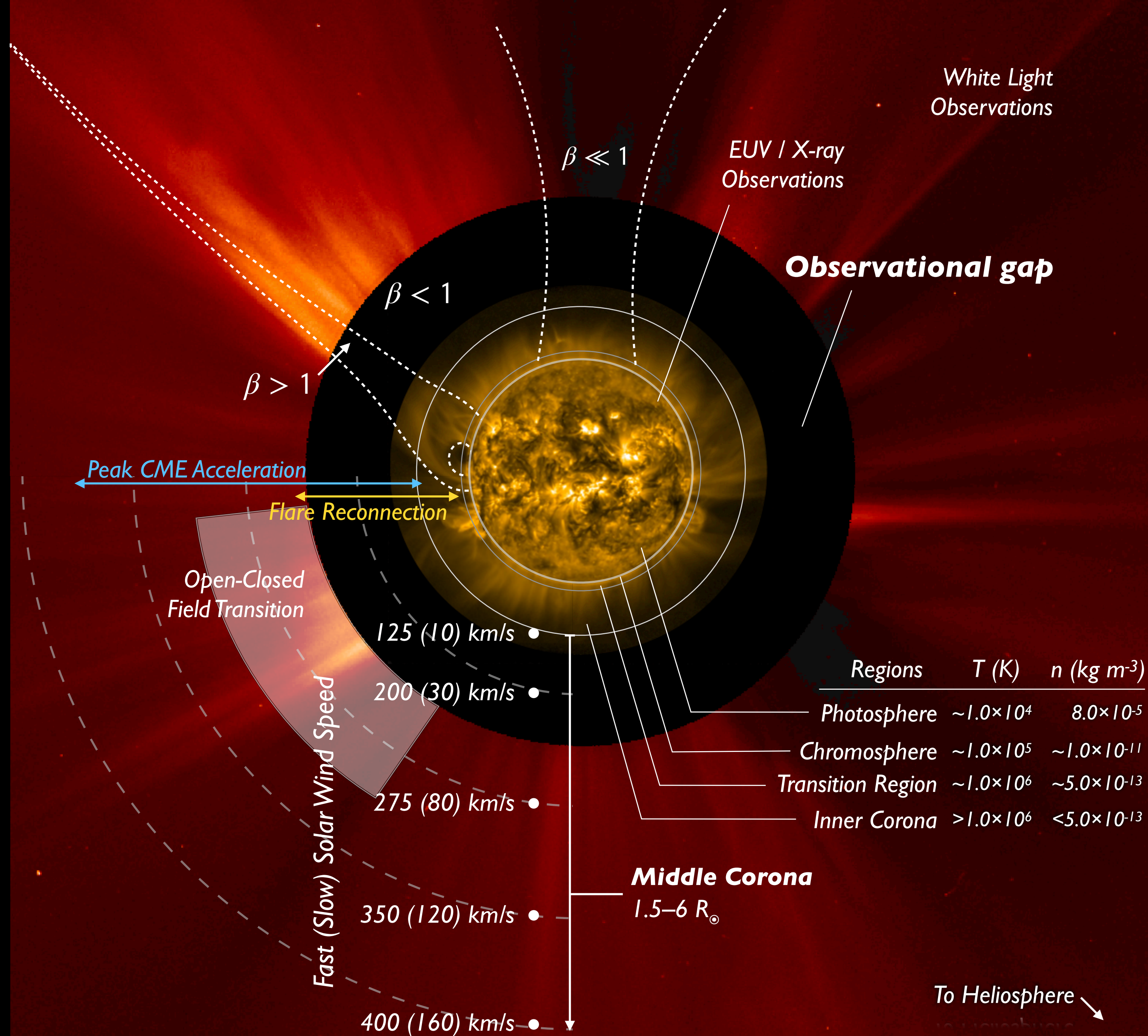
*: Structure ⇄: Flows

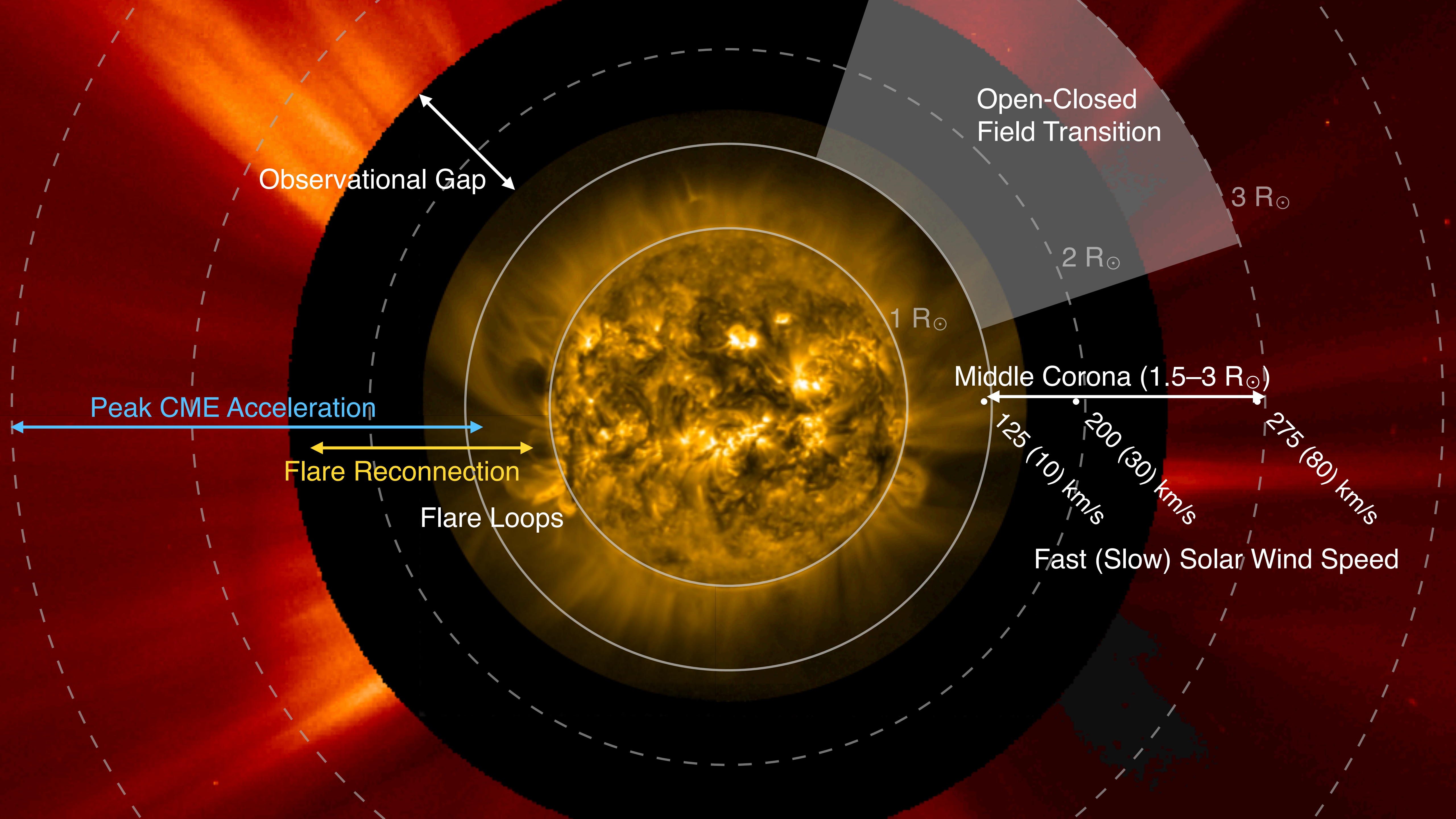


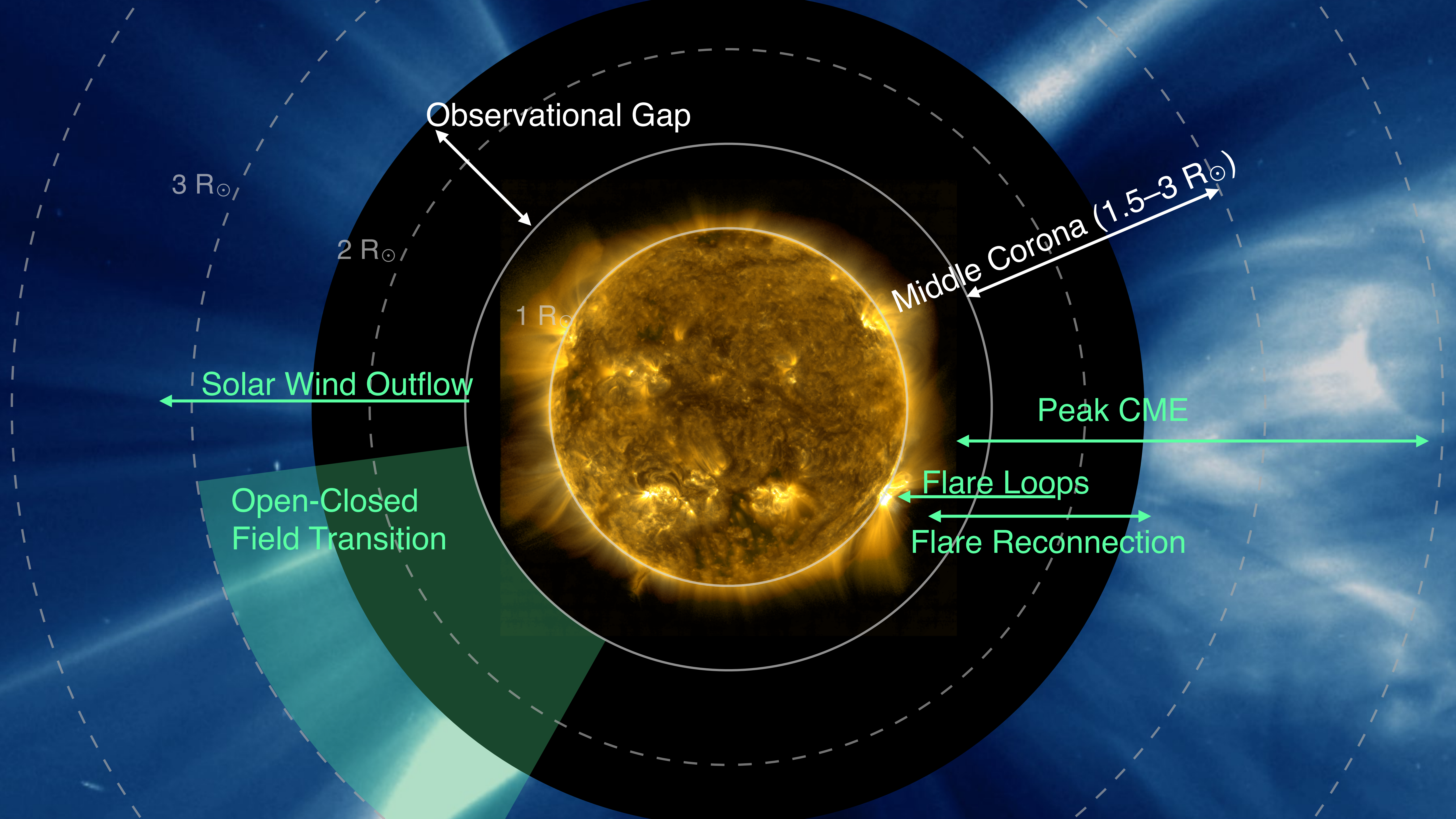
The Middle Corona Overview



Physical Transitions in the Middle Corona







Observational Gap

$3 R_{\odot}$

$2 R_{\odot}$

$1 R_{\odot}$

Middle Corona ($1.5-3 R_{\odot}$)

Solar Wind Outflow

Peak CME

Open-Closed
Field Transition

Flare Loops

Flare Reconnection

The Middle Corona Overview

Defining The Middle Corona

