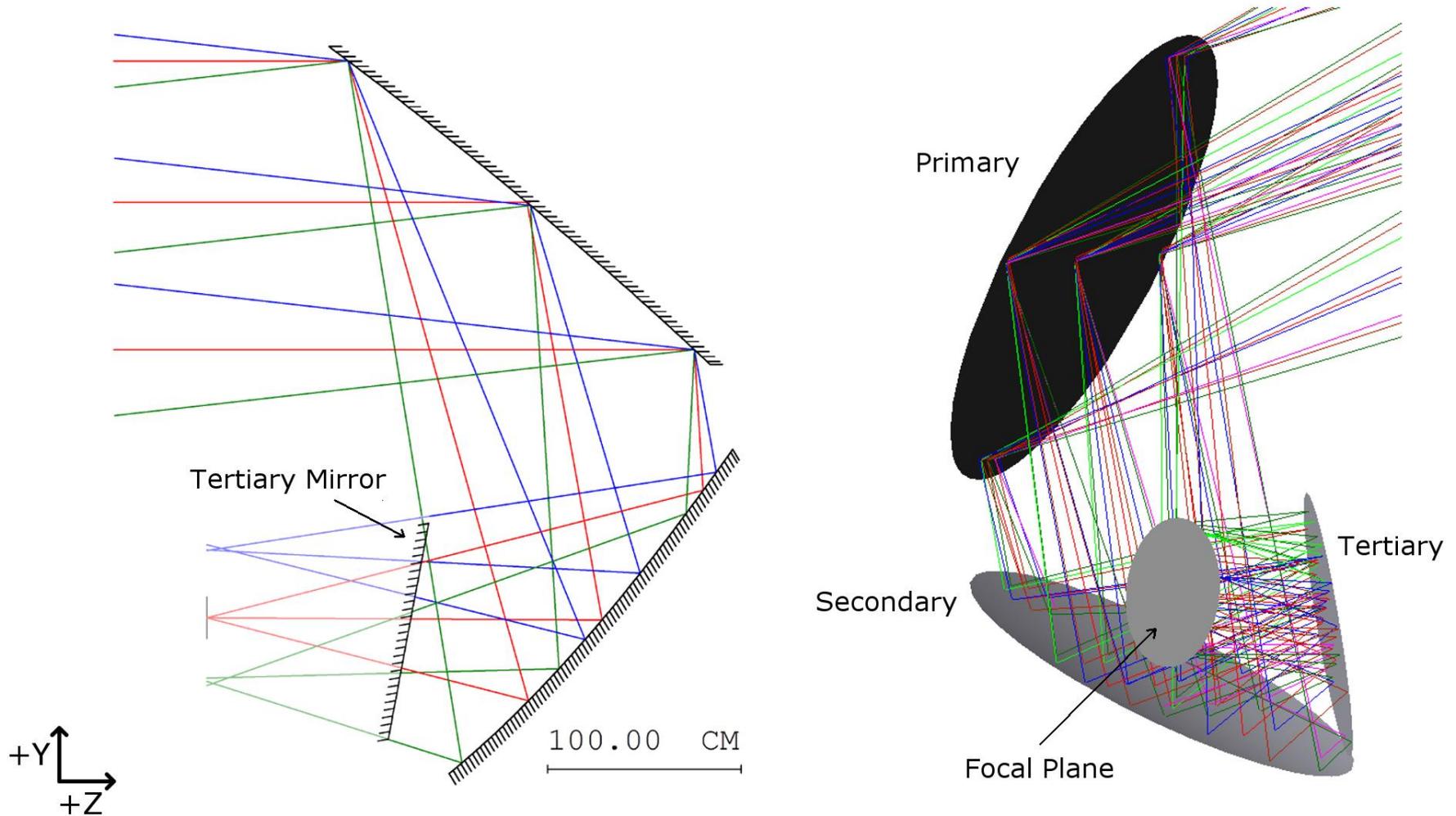


COrE+ Optics Design

1.5 m Open (front fed) Dragone

December 7, 2015

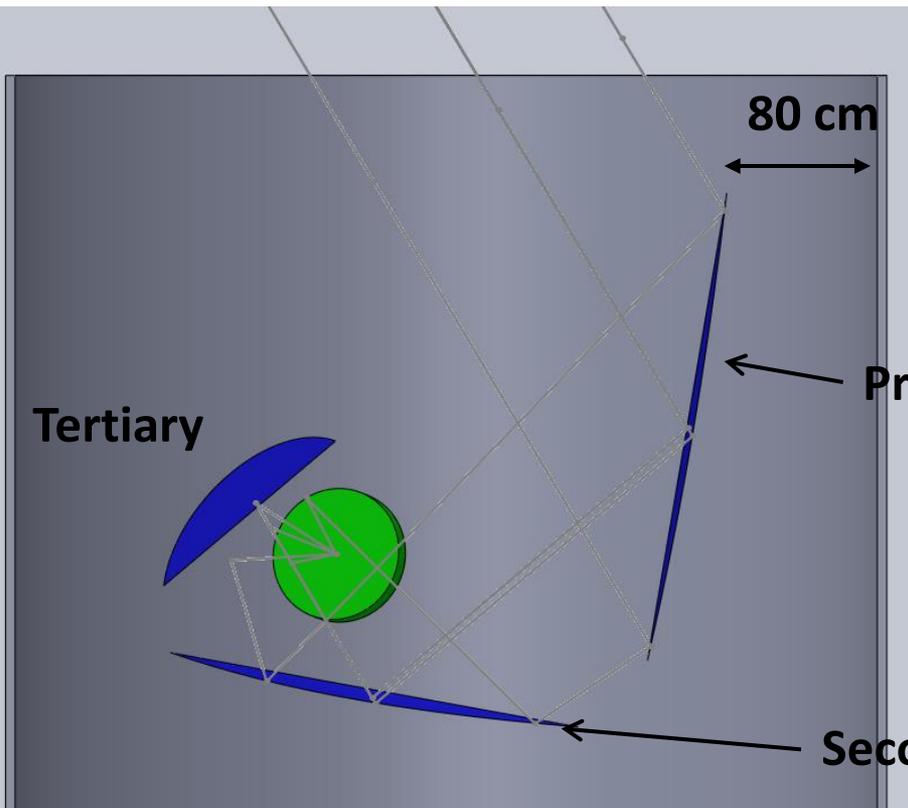
1.5 m Open Dragone



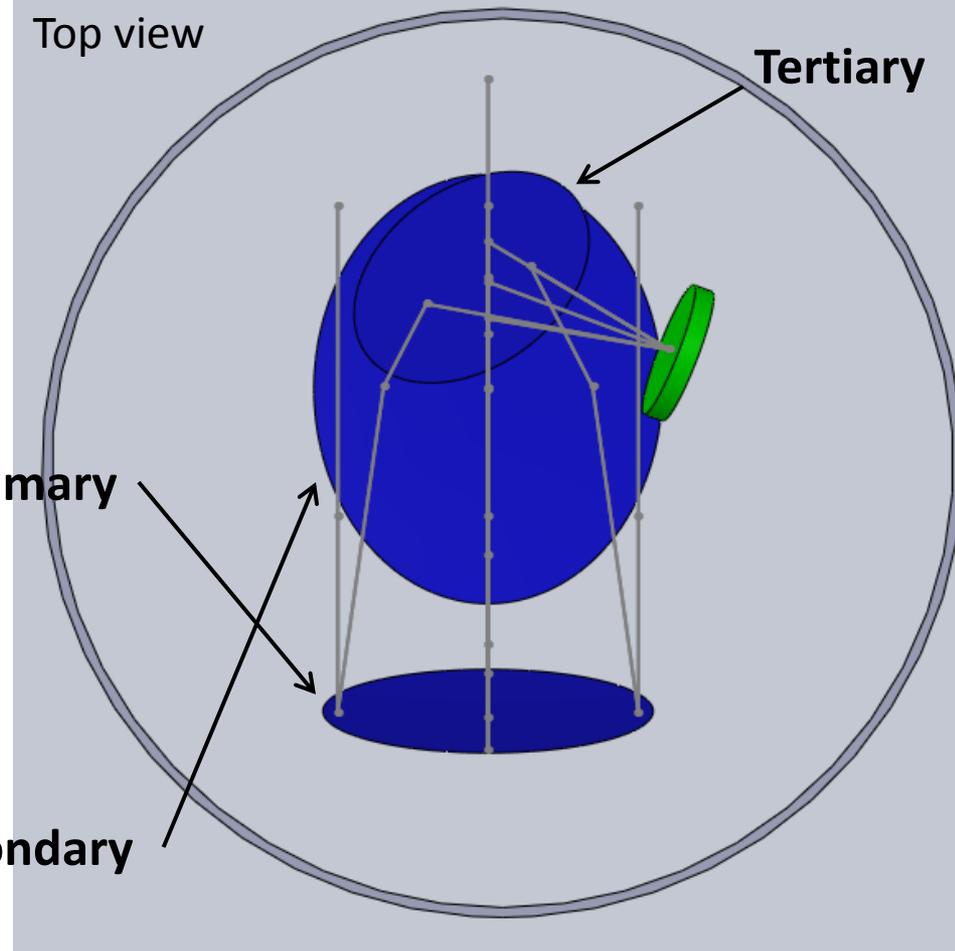
Fitting in 4.5 m fairing

- Open Dragone in 4.5 m cylindrical.
- Boresight is 30 degrees from satellite axis
- Focal plane is green. Mirrors are blue..

Side view



Top view



Optical Specifications

- Projected 1.5 m aperture.
- Physical mirror sizes are 10% oversized.
 - PR: 2.55 m x 1.65 m
 - SR: 2.25 m x 1.74 m
 - TR: 1.50 m x 1.26 m

- $f/2$, varies.

Open Dragone

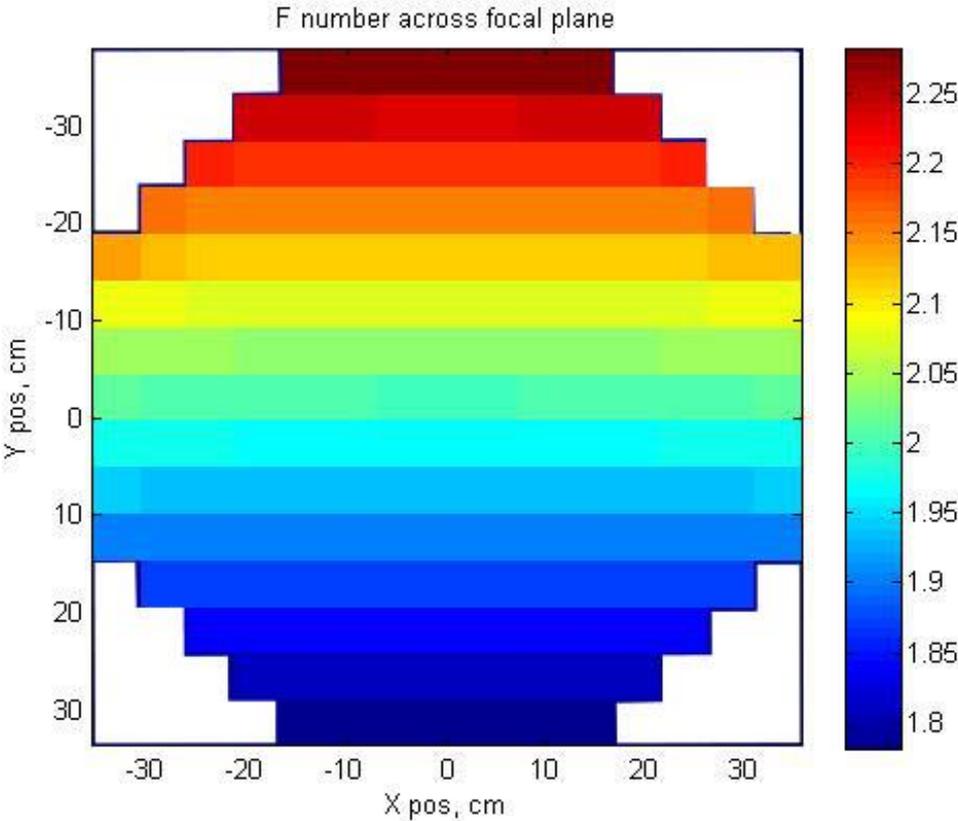
- Max: $f/2.28$
- Min: $f/1.78$
- Mean: $f/2.0$

Gregorian, proposed last year

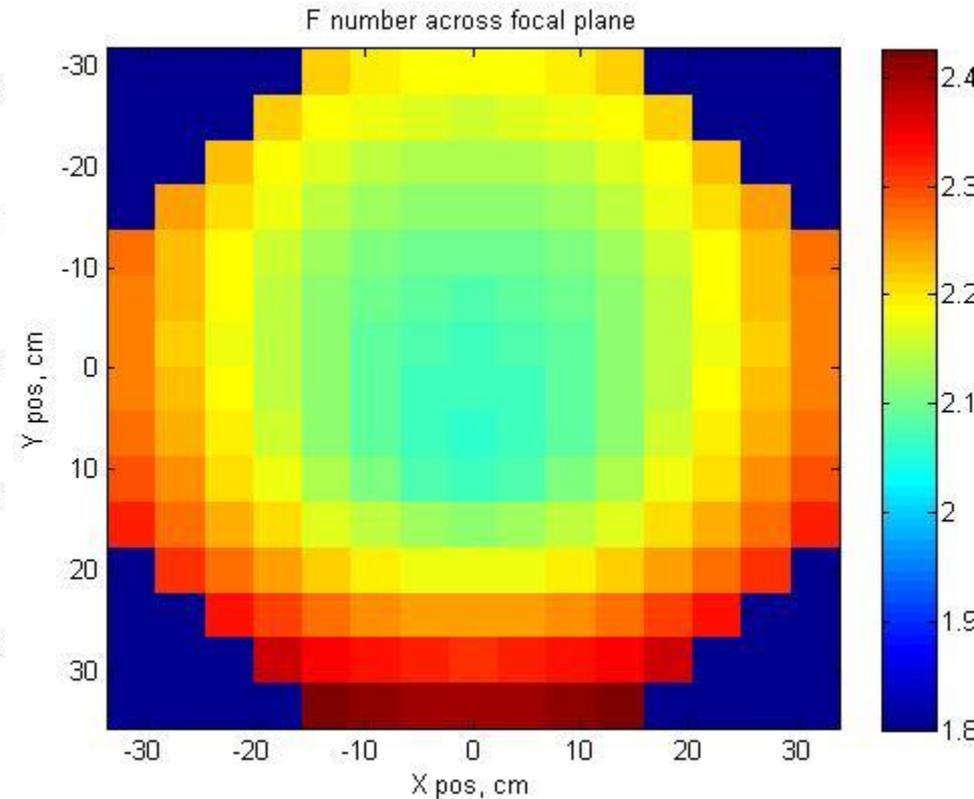
- Max: $f/2.43$
- Min: $f/2.06$
- Mean: $f/2.2$
- Center: $f/2.05$

F/# across focal planes

1.5 m Open Dragone



1.5 m Gregorian, proposed last year



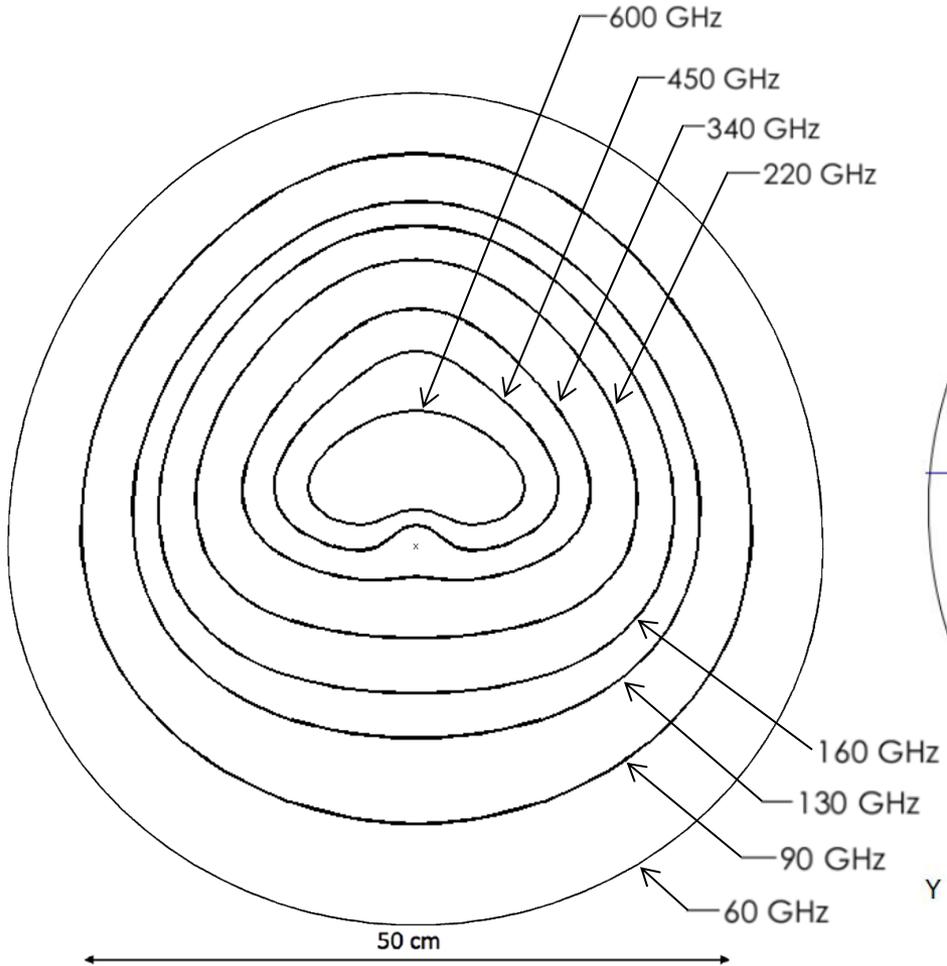
Focal Plane and FOV

- Focal plane sizes where Strehl = 0.8
- Primary is illuminated with 20dB edge taper

Frequency	X diameter (degrees)	Y diameter (degrees)	X diameter (cm)	Y diameter (cm)
600 GHz	3.06	3.03	15.8	15.6
160 GHz	8.42	7.54	43.4	38.8
60 GHz	13.5	13.1	69.7	67.5

Strehl Ratio Contours

Gregorian



Open Dragone

