

# OST/MISC Instrument Summary

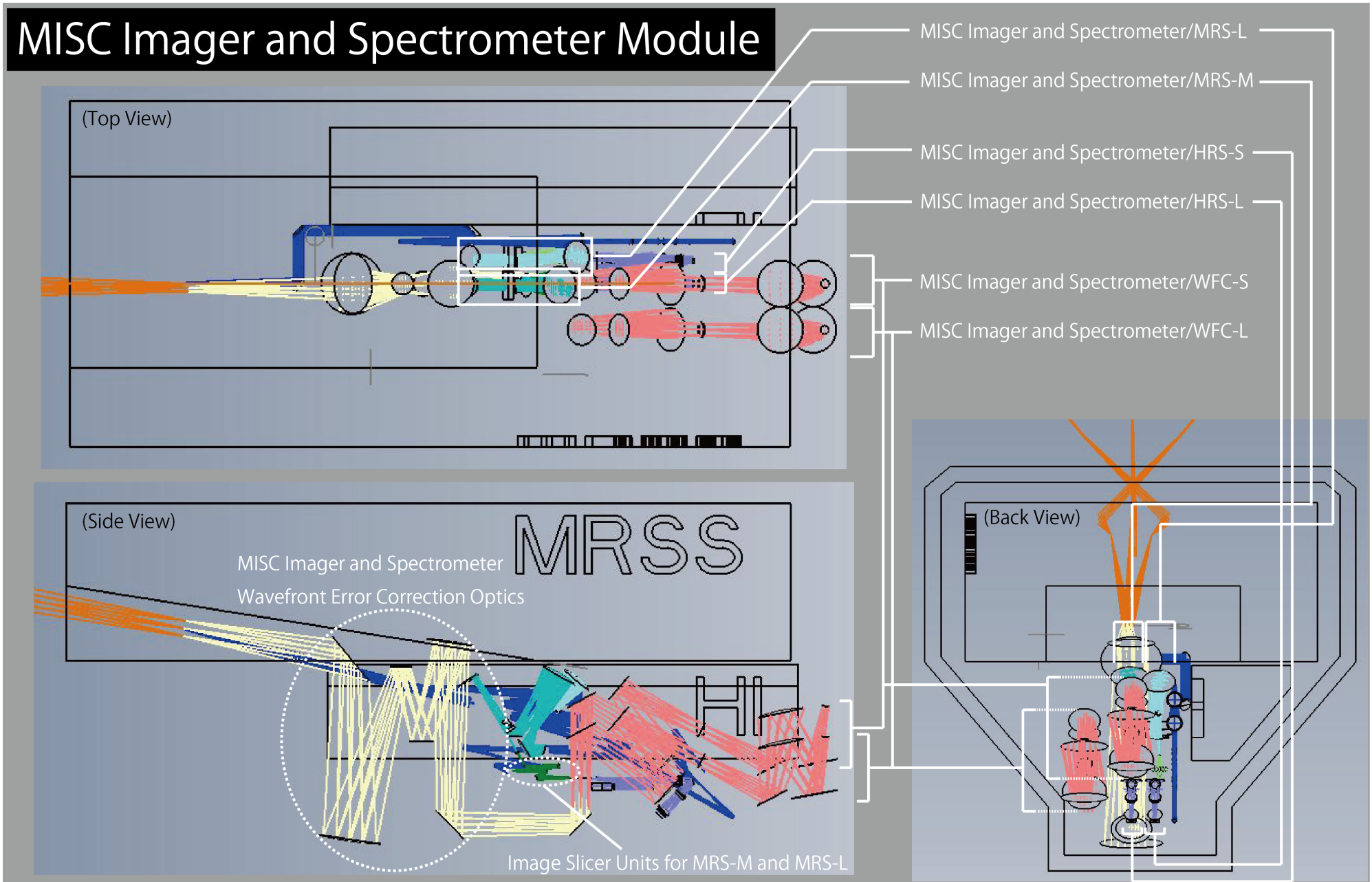
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# Mid-Infrared Imager, Spectrometer, Coronagraph (MISC)

Module	Mid-IR Imager Spectrometer Channel			Transit Channel	Coronagraph Channel
	Imager/Low-Res Spec.	Medium-Res Spec.	High-Res Spec.	(Densified Pupil Spec.)	(PIAACMC)
	WFI-S/-L	MRS-S/-M/-L	HRS-S/-L	TRA-S/-M/-L	COR-S/-L
Bandpass (μm)	6-38	5-36	12-18, 25-38	5--26	6-38
Spectral Resolution	5-10 [Imager] 300 [Low-Res Spec.]	1000-1500	20,000-30,000	>100 (TRA-S, TRA-M) 300 (TRA-L)	300
Full FOV	3 arcmin x 3 arcmin [Imager]	3 arcsec x 5 arcsec [with IFU]		3 arcsec x 3 arcsec	5.5 arcsec x 5.5 arcsec
Slit for Spectroscopy	Length; 3 arcmin Width; 0.26 arcsec (WFI-SG1) 0.40 arcsec (WFI-SG2) 0.65 arcsec (WFI-LG1) 1.00 arcsec (WFI-LG2) [low-resolution Spec.]	Length; 3 arcsec (MRS-S/ MRS-M/MRS-L) Width; 0.33 arcsec (MRS-S) 0.55 arcsec (MRS-M) 1.0 arcsec (MRS-L) Mum of Slices; 11 (MRS-S) 9 (MRS-M), 5 (MRS-L)	Length; 1.0 arcsec (HRS-S) 2.0 arcsec (HRS-L) Width; 0.5 arcsec (HRS-S) 1.0 arcsec (HRS-L)		Length; 1 arcmin Width; 0.26 arcsec (COR-SG1) 0.40 arcsec (COR-SG2) 0.65 arcsec (COR-LG1) 1.00 arcsec (COR-LG2)
Detectors	2kx2k Si:As (30μm/pix) [S] 2kx2k Si:Sb (18μm/pix) [L]	2kx2k Si:As (30μm/pix) [S] 2kx2k Si:As (30um/pix) [M] 1kx1k Si:Sb (18μm/pix) [L]	2kx2k Si:As (30μm/pix) [S] 1kx1k Si:Sb (18μm/pix) [L]	2kx2k Si:As (30μm/pix) [S] 2kx2k Si:As (30um/pix) [M] 2kx2k Si:As (30um/pix) [L]	2kx2k Si:As (30μm/pix) [S] 1kx1k Si:Sb (18μm/pix) [L]
pixel scale	0.088 arcsec/pix	0.0615 arcsec/pix (MRS-S) 0.10 arcsec/pix (MRS-M) 0.15 arcsec/pix (MRS-L)	0.17 arcsec/pix [S] 0.34 arcsec/pix [L]	0.1 arcsec/pix	0.05 arcsec/pix (COR-S) 0.10 arcsec/pix (COR-L)
Specification (Sensitivity/ Stability/ Contrast)	<b>Sensitivity [Imager] ;</b> <i>1-hour 5σ Continuum Sens. for a Point Source</i> 0.027μJy@5μm, 0.16μJy@10μm, 0.26μJy@15μm, 0.37μJy@20μm, 0.55μJy@25μm, 0.63μJy@30μm, 0.7μJy@35μm <b>Sensitivity [Low-Res Spec.];</b> <i>1-hour 5s Continuum Sens. for a Point Source (R=300)</i> 0.6μJy@5μm, 1.3μJy@10μm, 4.0μJy@15μm, 5.0μJy@20μm, 8.8μJy@25μm, 11.2μJy@30μm, 37.5μJy@35μm	<b>Sensitivity;</b> <i>1-hour 5s Continuum Sens. for a Point Source (R~1200)</i> 3μJy@7μm, 10μJy@15μm, 30μJy@24μm,100μJy@32μm 1-hour 5s Line Sens. for a Point Source 1x10 <sup>-21</sup> W/m <sup>2</sup> @7μm, 2x10 <sup>-21</sup> W/m <sup>2</sup> @15μm, 3x10 <sup>-21</sup> W/m <sup>2</sup> @24μm, 1x10 <sup>-20</sup> W/m <sup>2</sup> @32μm	<b>Sensitivity;</b> 1-hour 5s Line Sens. for a Point Source 1x10 <sup>-21</sup> W/m <sup>2</sup> @15μm, 3x10 <sup>-21</sup> W/m <sup>2</sup> @30μm	<b>Photometric stability;</b> better than 10 ppm on timescales of hours to days (excluding the fluctuation of detector gain)	<b>Average contrast;</b> 7x10 <sup>-6</sup> for 10% band 1x10 <sup>-6</sup> for 4% band in 0.88-3.6λ/D

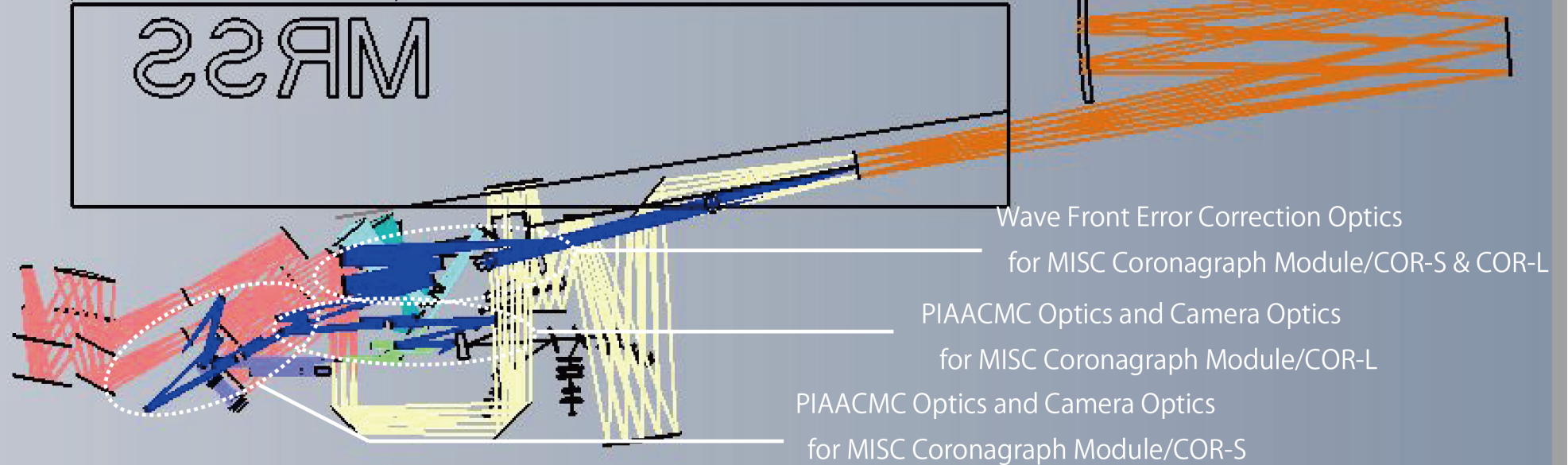
# Mid-Infrared Imager, Spectrometer, Coronagraph (MISC)

## MISC Imager and Spectrometer Module



# MISC Coronagraph Module

(Side View - from the HI side)



# MISC Transit Spectrometer Module

(Side View - from the other side of HI)

