WFIRST DRM2 options Summary

Concept Title	IDRM	DRM 1	DRM 1a	DRM 2	DRM 2a	DRM 3	DRM 3a	ISWG Probe	DRM 4
Mirror Diam	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.1
Launch Vehicle	Atlas V	Atlas V	Atlas V TBR	Falcon 9	Falcon 9	Atlas V TBR	Atlas V TBR	Atlas V	Falcon 9
Mission Life, yr	5	5	5	5	5	5	5	3	5
Redundancy	Full	Full	Full	Full	Full	Full	Full	Single String	Full
Imager									
Detectors	28 H2RG	36 H2RG	15 H4RG	24 H2RG	15 H4RG	18 H2RG	12 H4RG	8 H2RG	15 H4RG
Pixel scale, arcsec	0.18	0.18	0.17	0.22	*0.2*	0.22	0.18	0.45	0.18
Area, sq. deg.	0.291	0.37	0.56	0.37	0.77	0.28	0.50	0.52	0.63
Galaxy Redshift Spectro									
Prism	2 fixed	2 on wheel	2 on wheel	1-2 movable	1-2 movable	1 fixed	1 fixed	1 Fixed	None
Detectors	8 H2RG	Imager	Imager	Imager	Imager	8 H2RG	8 H2RG	8 H2RG	
Pixel scale, arcsec	0.45	0.18	0.17	0.22	0.22	0.45	0.45	0.45	
Area, sq. deg.	0.52	0.36	0.56	0.36	0.36	0.5	0.5	0.5	
SNe Spectro Type	slitless	slitless	slitless	IFU	IFU	IFU	IFU	SnSS	IFU
Weak Lensing	Imager	Imager	Imager	Imager	Imager	Imager	Imager ??	None	Imager
Filter implementation	Wheel	Wheel	Wheel	Wheel	Wheel	Fixed	Fixed	Fixed	Fixed
Filter Number	4 + prism	4 + prism	4 + prism	4 filters	4 filters	3 filters	3 filters	2 filters	3 filters
Lambda Max, um	2	2.5	2.5	2.5	2.5	2.5	2.5	2	2.5
Auxiliary guider	Y	Y	Y	Y	Y	n	n	n	n
area, m^2	1.33	1.33	1.13	0.95	0.95	0.95	0.95	0.95	0.95
A-Omega, m^2deg^2	0.386	0.497	0.632	0.354	0.735	0.266	0.476	0.494	0.596
gal Sp Aomega if different	0.690					0.475	0.475		0
# channels [lg field]	3	1	1	1	1	2	2	2	1
IFU	0	0	0	1	1	1	1	1	1
total sci chnnl	3	1	1	2	2	3	3	3	2
# focal lengths	2	1	1	1	1	2	2	1	1
complexity	5	2	2	3	3	5	5	4	3
Cost comparison, $M	(1.5 B$)	~ -50	~ -50	~ -200	*~ -200*	~ -50	~ -50	~ -350	~ -240
Concept Title	IDRM	DRM 1	DRM 1a	DRM 2	DRM 2a	DRM 3	DRM 3a	ISWG Probe	DRM 4
WL speed, deg2/yr	2700	3475	4419	2478	5140	1858	3331	3456	4163
GRS speed, deg2/yr	11000	7923	10076	5649	11718	7573	7573	7879	0
SN speed, SN, relative	1	1.29	1.92	1.28	2.66	0.96	1.72	1.79	2.15
ML speed, deg^2	0.29	0.37	0.56	0.37	0.77	0.28	0.50	0.52	0.63
IRSS speed, relative	1	1.29	1.92	1.28	2.66	0.96	1.72	1.79	2.15

serial to parallel NOT considered; assume IFU/SNSS/slitless SN spec all same speed; assume WL at all plate scales works