


ROTATION PERIODS OF ASTEROIDS

Jordan Van Nest

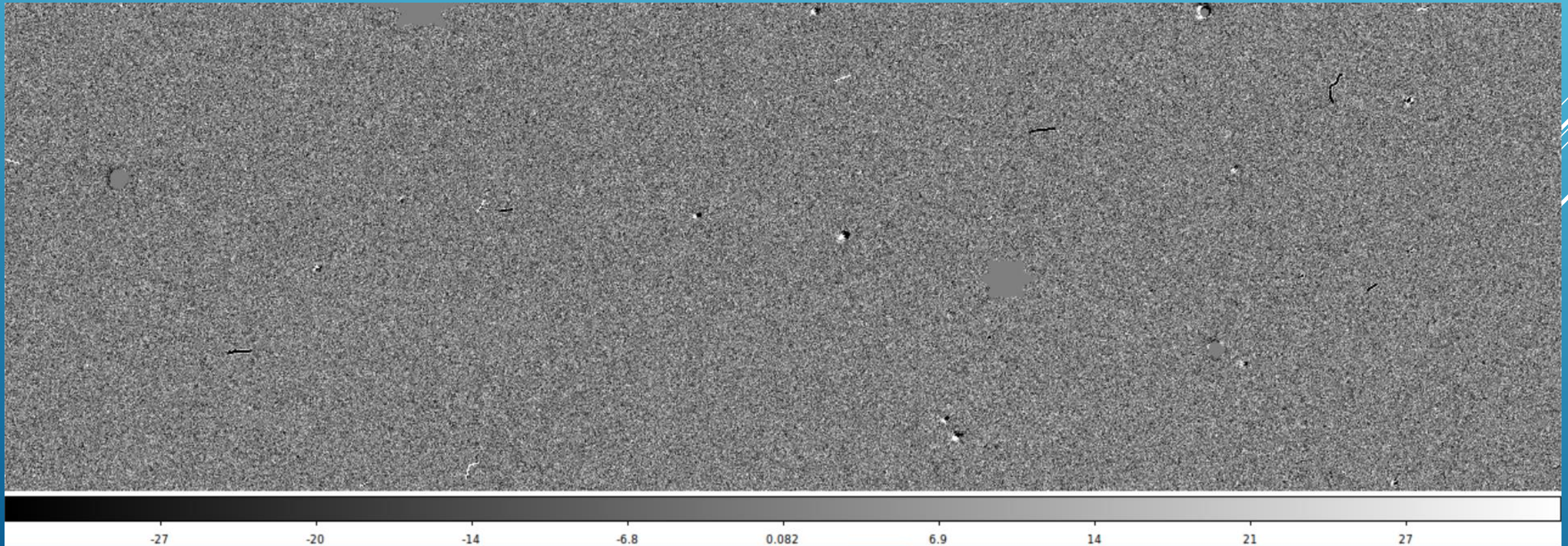
A series of several parallel white lines of varying lengths, slanted diagonally from the bottom-left towards the top-right, located in the lower right quadrant of the slide.

PURPOSE

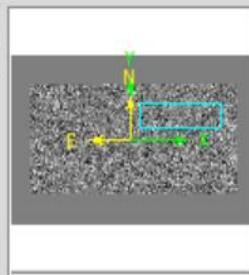
- ▶ To find asteroids and calculate their rotation period
 - ▶ Rotation periods not being studied elsewhere
 - ▶ Very few studies done at this cadence
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

PROCESS

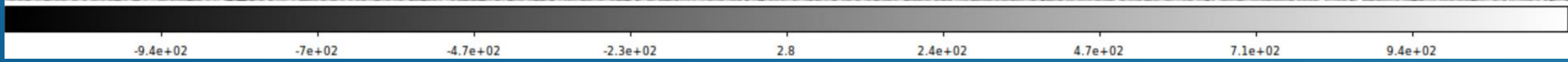
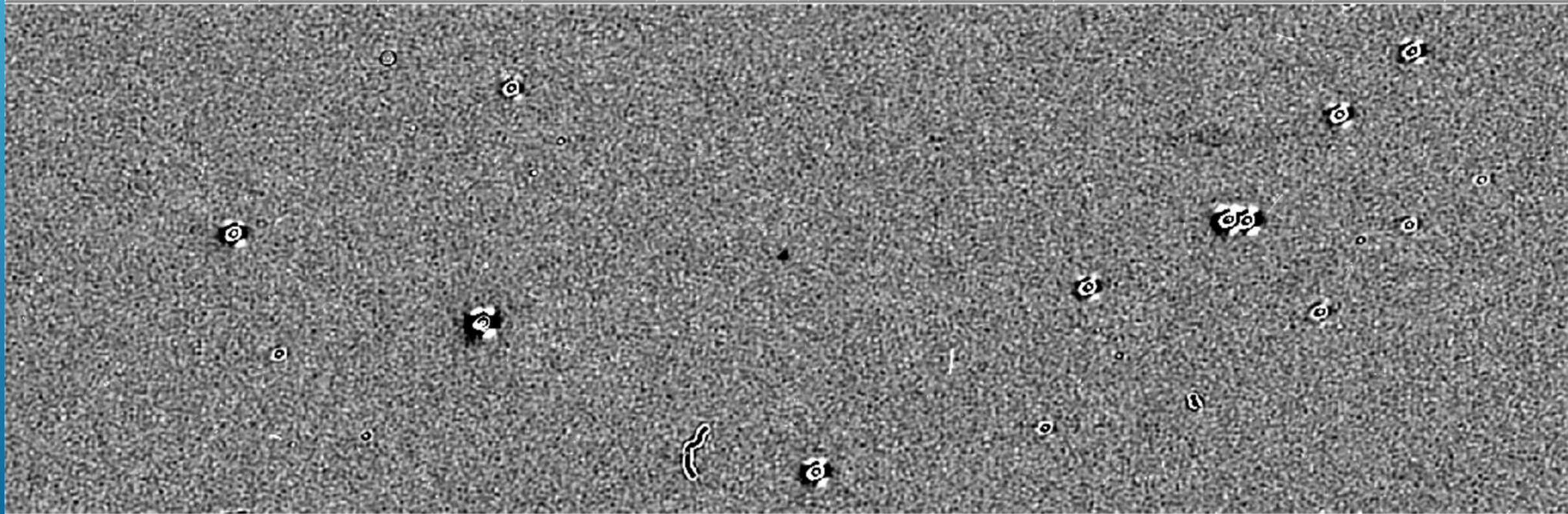
- ▶ Observational photos were combined with image subtraction
- ▶ Images added together to show dark spot



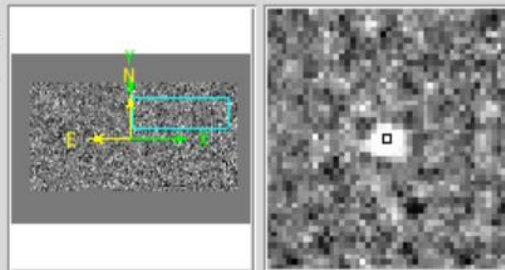
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Object	Sara-g70		
Value	<input type="text"/>		
WCS	<input type="text"/>		
Physical	X	<input type="text"/>	Y <input type="text"/>
Image	X	<input type="text"/>	Y <input type="text"/>
Frame 2	x	0.833	0.000 °



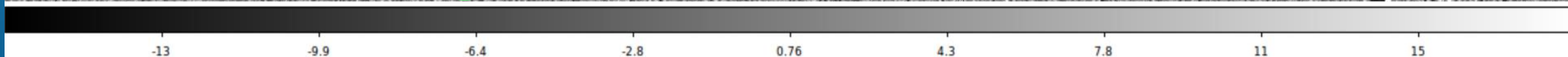
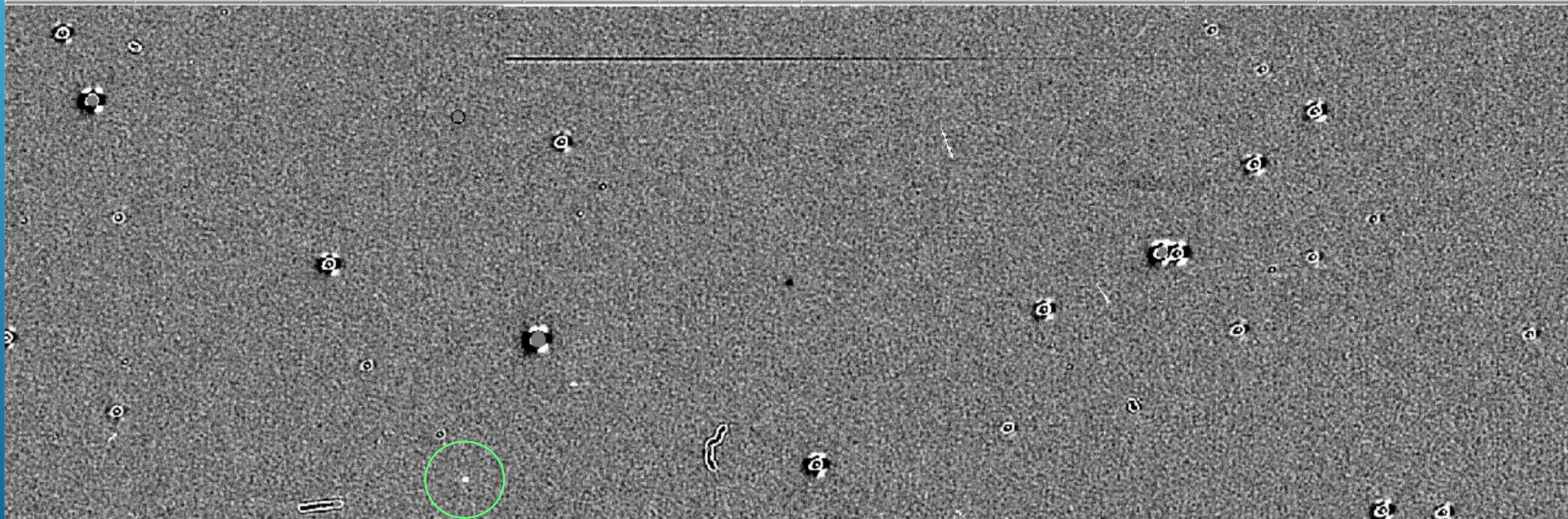
file	edit	view	frame	bin	zoom	scale	color	region	wcs	analysis	help
new	rgb	3d	delete	clear	single	tile	blink	first	prev	next	last



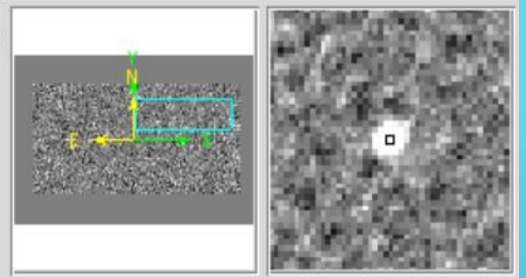
File	sara.g.ut140203.050950_1_g.ut140203.082053_1.diff.fits		
Object	Sara-g70		
Value	63		
fk5	α	8:59:08.334	δ -4:29:17.01
Physical	X	2890.600	Y 1704.720
Image	X	2890.600	Y 1704.720
Frame 1	x	0.694	0.000 °



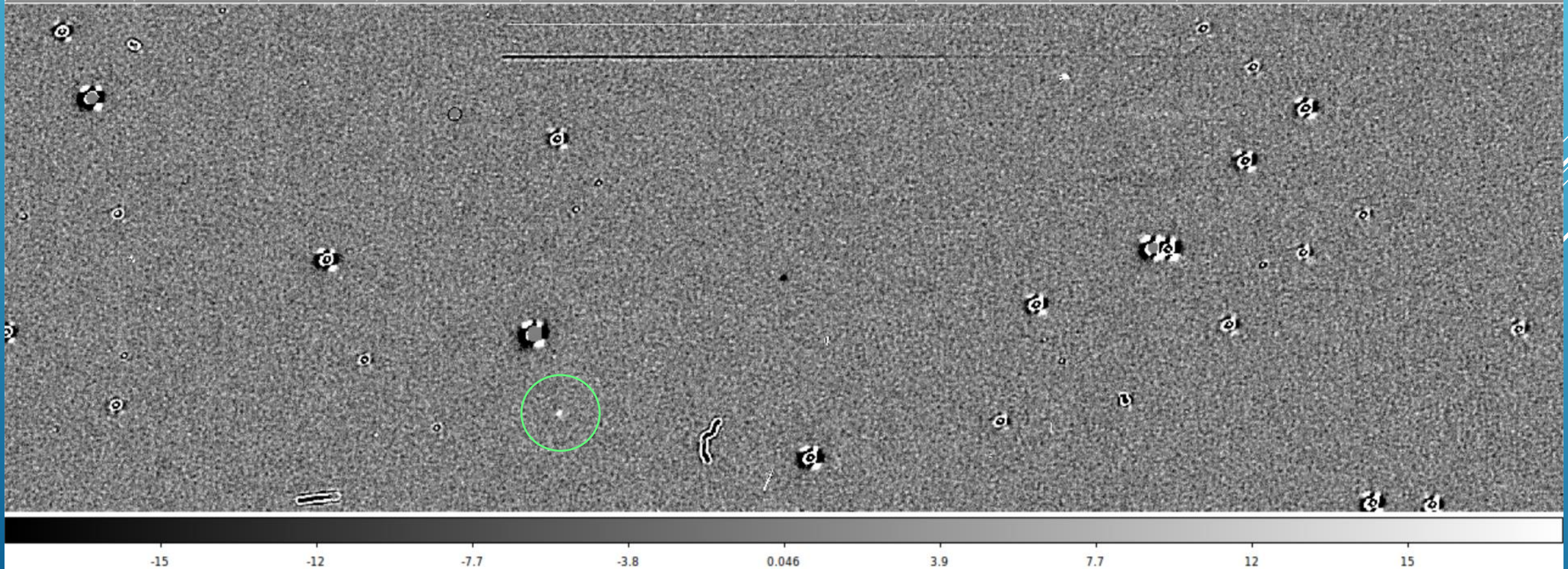
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new	rgb	3d	delete	clear	single	tile	blink	first	prev	next	last



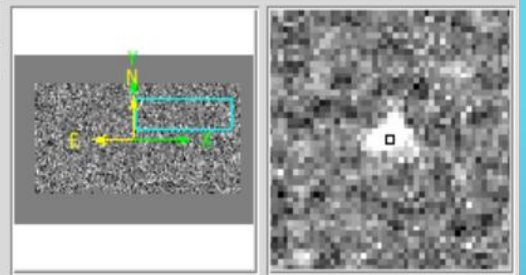
File	sara.g.ut140203.060735_1_g.ut140203.082053_1.diff.fits		
Object	Sara-g70		
Value	95		
fk5	α	8:59:06.254	δ -4:28:59.90
Physical	X	3005.798	Y 1768.080
Image	X	3005.798	Y 1768.080
Frame 2	x	0.694	0.000 °



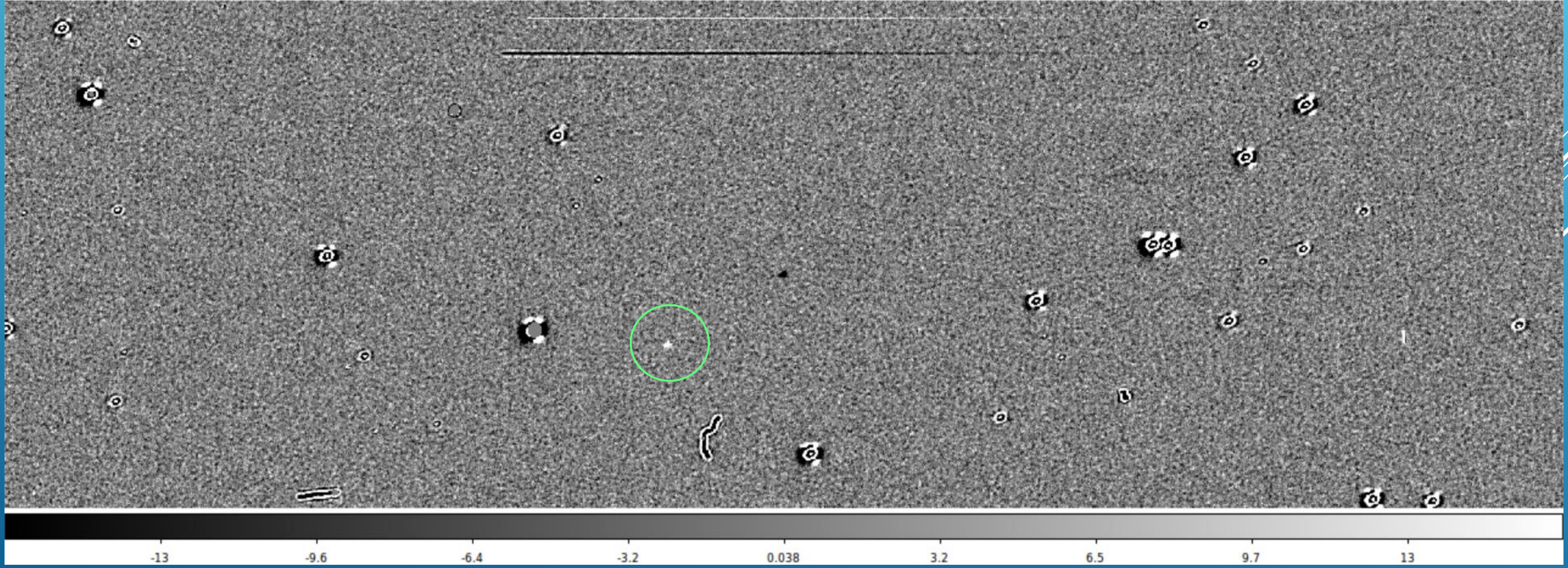
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new	rgb	3d	delete	clear	single	tile	blink	first	prev	next	last



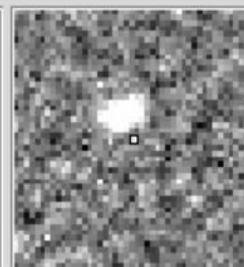
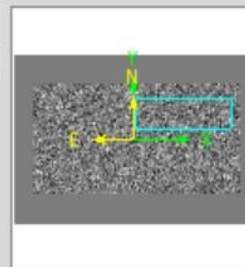
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Object	Sara-g70		
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Physical	X	3133.958	Y 1838.640
Image	X	3133.958	Y 1838.640
Frame 3	x	0.694	0.000 °



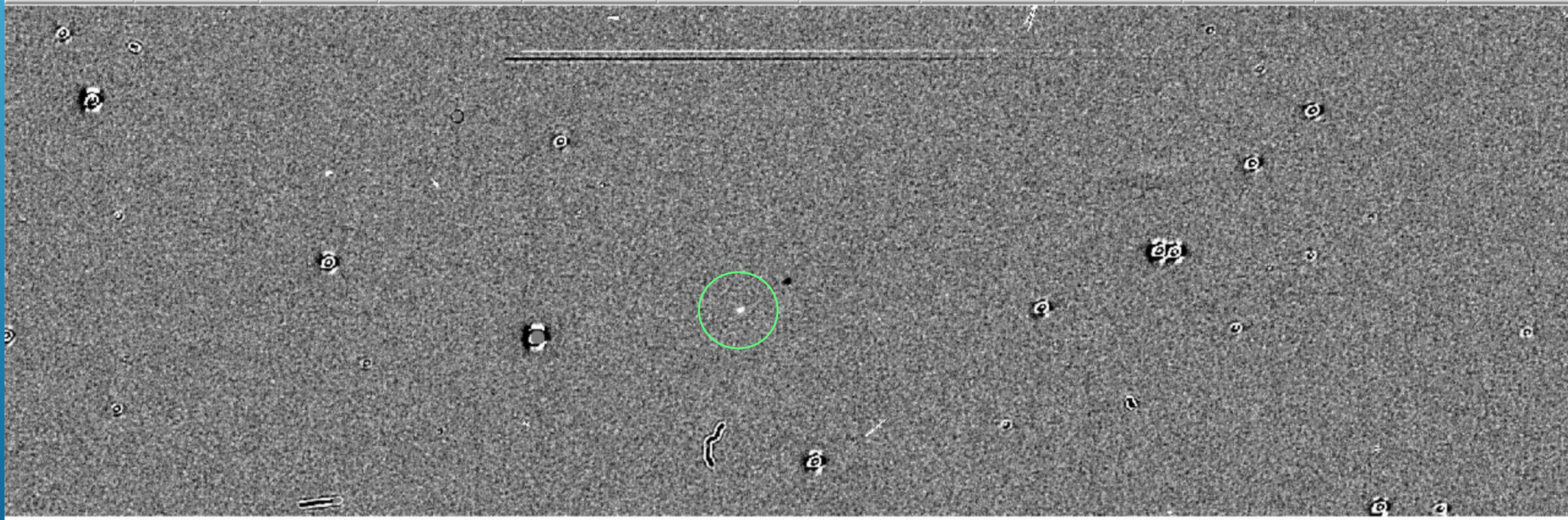
file	edit	view	frame	bin	zoom	scale	color	region	wcs	analysis	help
new	rgb	3d	delete	clear	single	tile	blink	first	prev	next	last



File	sara.g.ut140203.075249_1_g.ut140203.082053_1.diff.fits		
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Image	X	3217.478	Y 1880.400
Frame 4	x	0.694	0.000 °

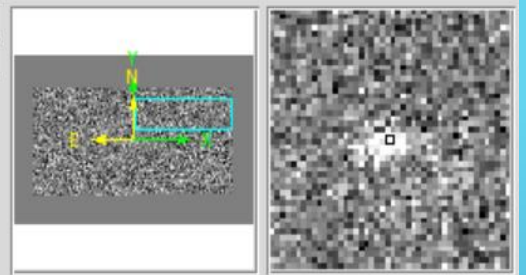


file	edit	view	frame	bin	zoom	scale	color	region	wcs	analysis	help
new	rgb	3d	delete	clear	single	tile	blink	first	prev	next	last

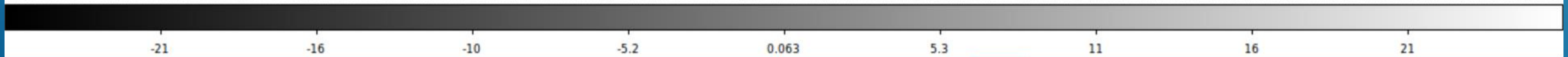
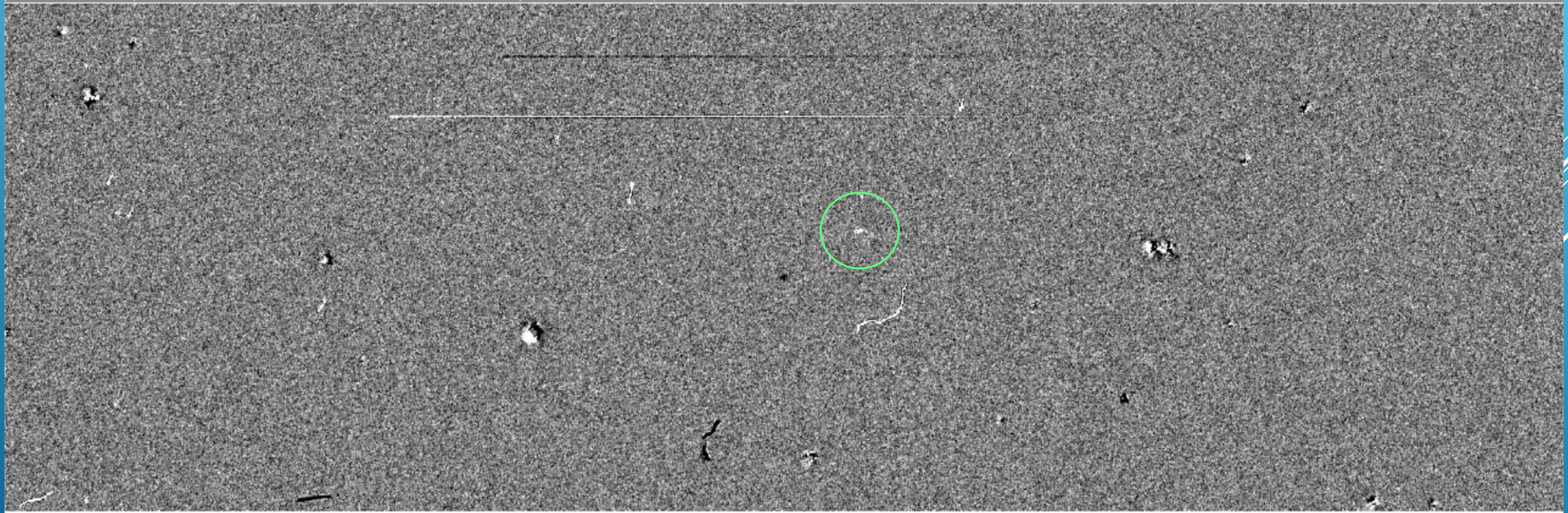


-14 -10 -6.6 -3.2 0.32 3.8 7.2 11 14

File	sara.g.ut140203.090701_1_g.ut140203.082053_1.diff.fits		
Object	Sara-g90		
Value	31		
fk5	α	8:58:59.832	δ -4:28:05.85
Physical	X	3361.478	Y 1968.240
Image	X	3361.478	Y 1968.240
Frame 5	x	0.694	0.000 °



file	edit	view	frame	bin	zoom	scale	color	region	wcs	analysis	help
new	rgb	3d	delete	clear	single	tile	blink	first	prev	next	last



sort.txt - emacs@bragg

File Edit Options Buffers Tools Help

Save Undo

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3277.013 1139.186 -8.424 0.300 2341.48 0.00 0x00000004 52.56 2.2
642086 -0.016921 2.294295 -4.48 100.00 0.00 6.34 5.33 5.83 18.0 0.0 0x0000
0 0x0000 0 0.00000000 0.00000000
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sort.txt 75% L?? (Text)

ccd1_2 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ADD-INS Jorda...

Clipboard Font Alignment Styles

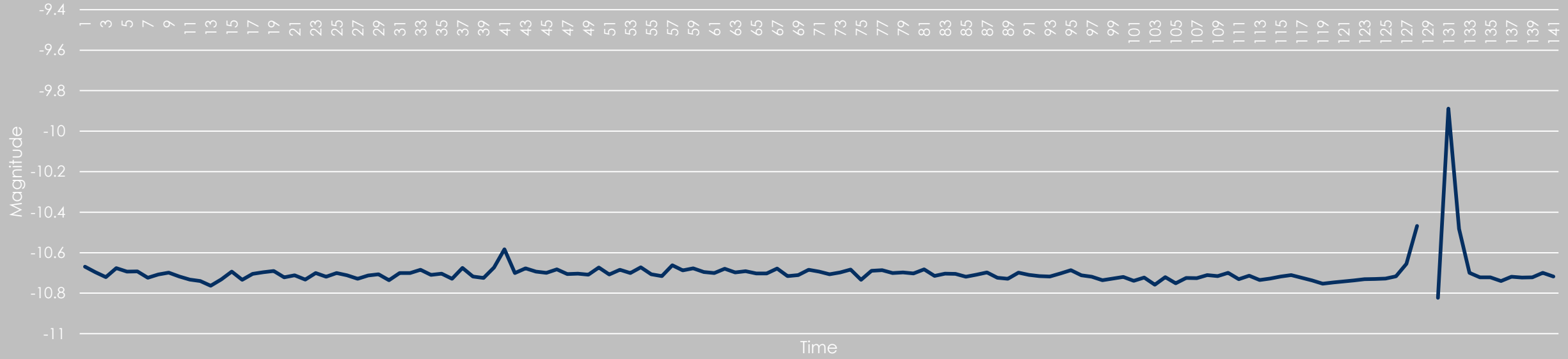
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111	sara.g.ut140203.081555_1.sw.dcmp	0.12927093	3260.939	1910.309	-7.93	0.039
112	sara.g.ut140203.081732_1.sw.dcmp	0.13042969	3264.246	1912.151	-7.923	0.04
113	sara.g.ut140203.081918_1.sw.dcmp	0.13155695	3267.464	1913.943	-7.315	0.062
114	sara.g.ut140203.082053_1.sw.dcmp	0.13273274	3270.819	1915.812	-8.047	0.03
115	sara.g.ut140203.082233_1.sw.dcmp	0.13390715	3274.171	1917.678	-7.303	0.059
116	sara.g.ut140203.082413_1.sw.dcmp	0.1350523	3277.439	1919.499	-7.756	0.046
117	sara.g.ut140203.082552_1.sw.dcmp	0.13620489	3280.729	1921.331	-7.98	0.033
118	sara.g.ut140203.082734_1.sw.dcmp	0.13735902	3284.023	1923.165	-8.017	0.036
119	sara.g.ut140203.082911_1.sw.dcmp	0.13850896	3287.305	1924.993	-8.032	0.038
120	sara.g.ut140203.083050_1.sw.dcmp	0.139649	3290.558	1926.805	-8.001	0.041
121	sara.g.ut140203.083227_1.sw.dcmp	0.1407897	3293.814	1928.618	-8.157	0.029
122	sara.g.ut140203.083405_1.sw.dcmp	0.14191798	3297.034	1930.412	-8.131	0.03
123	sara.g.ut140203.083547_1.sw.dcmp	0.14309037	3300.38	1932.275	-8.107	0.038
124	sara.g.ut140203.083728_1.sw.dcmp	0.14424378	3303.672	1934.109	-8.112	0.035
125	sara.g.ut140203.083905_1.sw.dcmp	0.14539924	3306.969	1935.945	-8.092	0.033
126	sara.g.ut140203.084045_1.sw.dcmp	0.14653125	3310.2	1937.745	-8.035	0.038
127	sara.g.ut140203.084224_1.sw.dcmp	0.14769089	3313.51	1939.588	-8.055	0.038
128	sara.g.ut140203.084405_1.sw.dcmp	0.14884926	3316.816	1941.429	-8.087	0.035
129	sara.g.ut140203.084545_1.sw.dcmp	0.15000733	3320.121	1943.27	-8.108	0.039
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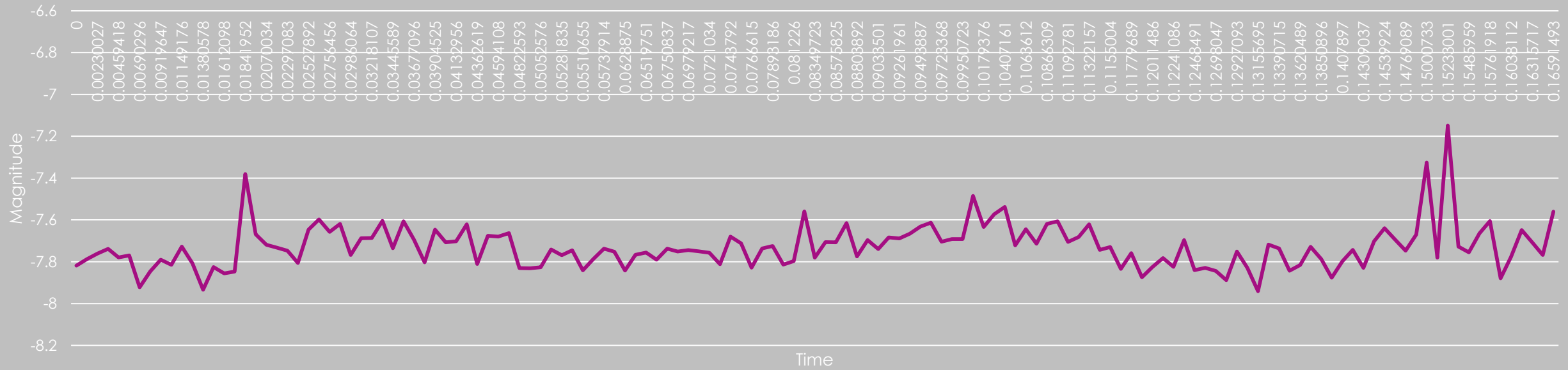
Sheet1

READY 100%


Light Curve



Light Curve



NEXT STEPS

- ▶ Finish plotting light curves for the rest of the asteroids
 - ▶ Complete a Fourier analysis of the light curves to calculate rotation periods
 - ▶ Repeat for nights 2-8
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.