STIS/CCD Acceptance Testing

Ron Downes
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Summary

A detailed acceptance test for the STIS CCD detector has been performed. A regression test shows that BOT is giving the correct answers. The new features (exposure expansion, pointing adjustments, actual duration usage, and visualization) are all functioning properly, and BOT can handle error conditions gracefully and provides meaningful feedback to the users.

Three issues with the Aladin display have been found – a slight misalignment of the BOT overlay with the DSS image, a failure to display all sub-exposures, and a broken link in the Aladin spreadsheet; all of these are known issues with PRs previously filed. Only the failure to display sub-exposures is critical for release of the tool for STIS/CCD usage.

STIS ACQ exposures, although fully supported, should not be supported by the BOT; see APT-BOT OPR 56643. This work does not need to be complete prior to the release of the tool for STIS/CCD usage.

The E1 (spectroscopic) apertures, which are supported, did not process. This is due to the fact that these apertures were added for the last cycle of STIS, and STIS ceased operations prior to their usage. Consequently, they were never added into BOT; see APT BOT-OPR 56645, and *should be added prior to the release of BOT for STIS/CCD usage*.

Introduction

For this test, the following target and exposure was used:

Target: G191-B2B – 05h 05m 30.6119s, +52^{o} 49’ 45.95”
(Note that this is slightly off from nominal position of the star)

Note that for the parallel observation, the following target was used:

Target: FY-COM – 12h 49m 16.00s, +27^{o} 25’ 22.0”

Exposure: STIS/CCD, ACCUM, MIRROR, F28X50LP, 1000s

For one exposure, I used a spectroscopic mode:

Exposure: STIS/CCD, ACCUM, 52X0.5, G430L/4300, 1000s

When appropriate, modifications to the exposure (e.g. POS TARG) are detailed below.

This target/exposure was used to perform the following:

Test	Definition
Regression	Comparison with old VTT/BOT
New features	Exposure expansion, pointing adjustment, actual duration, visualization
Exception Handling	Bad exposure, unsupported exposure, network query, cancel operations

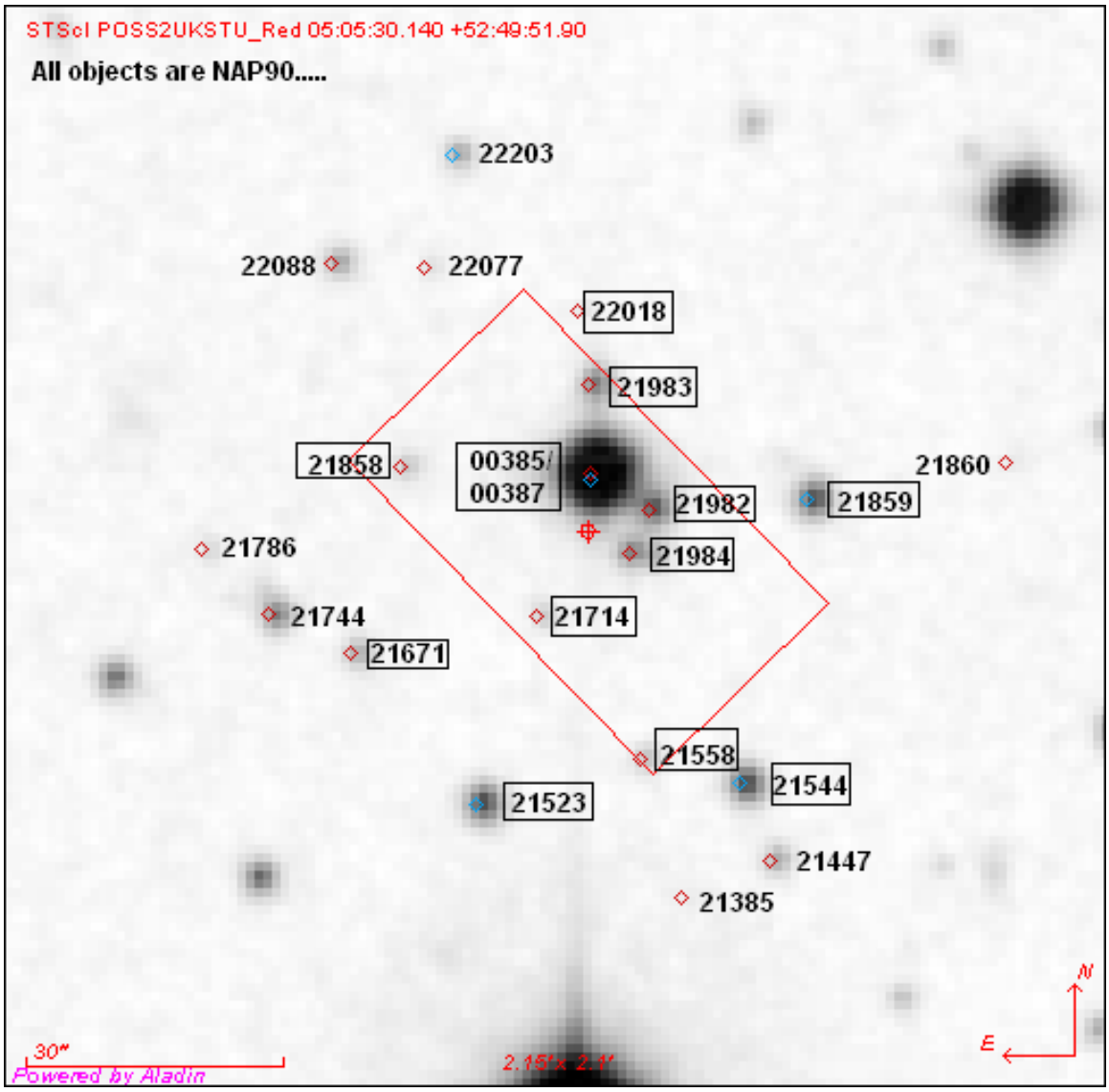
For each test, both the tabular and graphic output products are included for ease of comparison with future test results.

Regression Test

The test exposure was run through both the VTT/BOT and the new BOT/Aladin interface. For imaging, the VTT/BOT used a search radius of 35.4", while the new BOT used 50.0". All stars found by the old VTT/BOT were found by the new BOT, while 8 additional stars were found by the new BOT (both in the extended region of the new BOT search area); the magnitudes and derived count rates were identical. The 21 objects detected (6 Science, and 15 Unknown) were:

OBJECT ID	RA	Dec	F	J	V	B-V	Type	New	VTT
NAP9021860	05 05 25.2752	+52 49 54.84	20.14	---	---	---	not a star	Y	N
NAP9021859	05 05 27.8199	+52 49 50.20	16.37	17.42	16.85	0.37	F0V	Y	Y
NAP9021447	05 05 28.2105	+52 49 8.15	18.4	19.69	---	---	not a star	Y	N
NAP9021544	05 05 28.6232	+52 49 16.96	16.37	17.3	16.8	0.29	A5V	Y	Y
NAP9021385	05 05 29.3488	+52 49 3.70	19.98	---	---	---	not a star	Y	N
NAP9021982	05 05 29.8387	+52 49 48.73	16.82	---	---	---	not a star	Y	Y
NAP9021558	05 05 29.9115	+52 49 19.67	18.87	20.18	---	---	not a star	Y	Y
NAP9021984	05 05 30.0681	+52 49 43.51	17.57	---	---	---	not a star	Y	Y
NAP9000385	05 05 30.5968	+52 49 52.68	11.84	11.45	11.69	-0.62	**O5V**	Y	Y
NAP9000387	05 05 30.6069	+52 49 51.92	---	---	11.68	-0.25	**O5V**	Y	Y
NAP9021983	05 05 30.6445	+52 50 3.23	17.22	18.56	---	---	not a star	Y	Y
NAP9022018	05 05 30.7848	+52 50 11.67	20.21	---	---	---	not a star	Y	Y
NAP9021714	05 05 31.2701	+52 49 36.12	19.03	20.35	---	---	not a star	Y	Y
NAP9021523	05 05 32.0052	+52 49 14.15	16.3	17.85	17.02	0.72	G5V	Y	Y
NAP9022203	05 05 32.4531	+52 50 29.57	18.29	19.61	18.9	0.55	F5V	Y	N
NAP9022077	05 05 32.7828	+52 50 16.40	19.79	22.33	---	---	not a star	Y	N
NAP9021858	05 05 33.0508	+52 49 53.18	18.81	20.48	---	---	not a star	Y	Y
NAP9021671	05 05 33.6567	+52 49 31.37	18.36	20.37	---	---	not a star	Y	Y
NAP9022088	05 05 33.9734	+52 50 16.81	18.13	19.8	---	---	not a star	Y	N
NAP9021744	05 05 34.7154	+52 49 35.81	17.09	18.8	---	---	not a star	Y	N
NAP9021786	05 05 35.5867	+52 49 43.14	19.47	20.76	---	---	not a star	Y	N

The field map, showing the objects found, is given below.

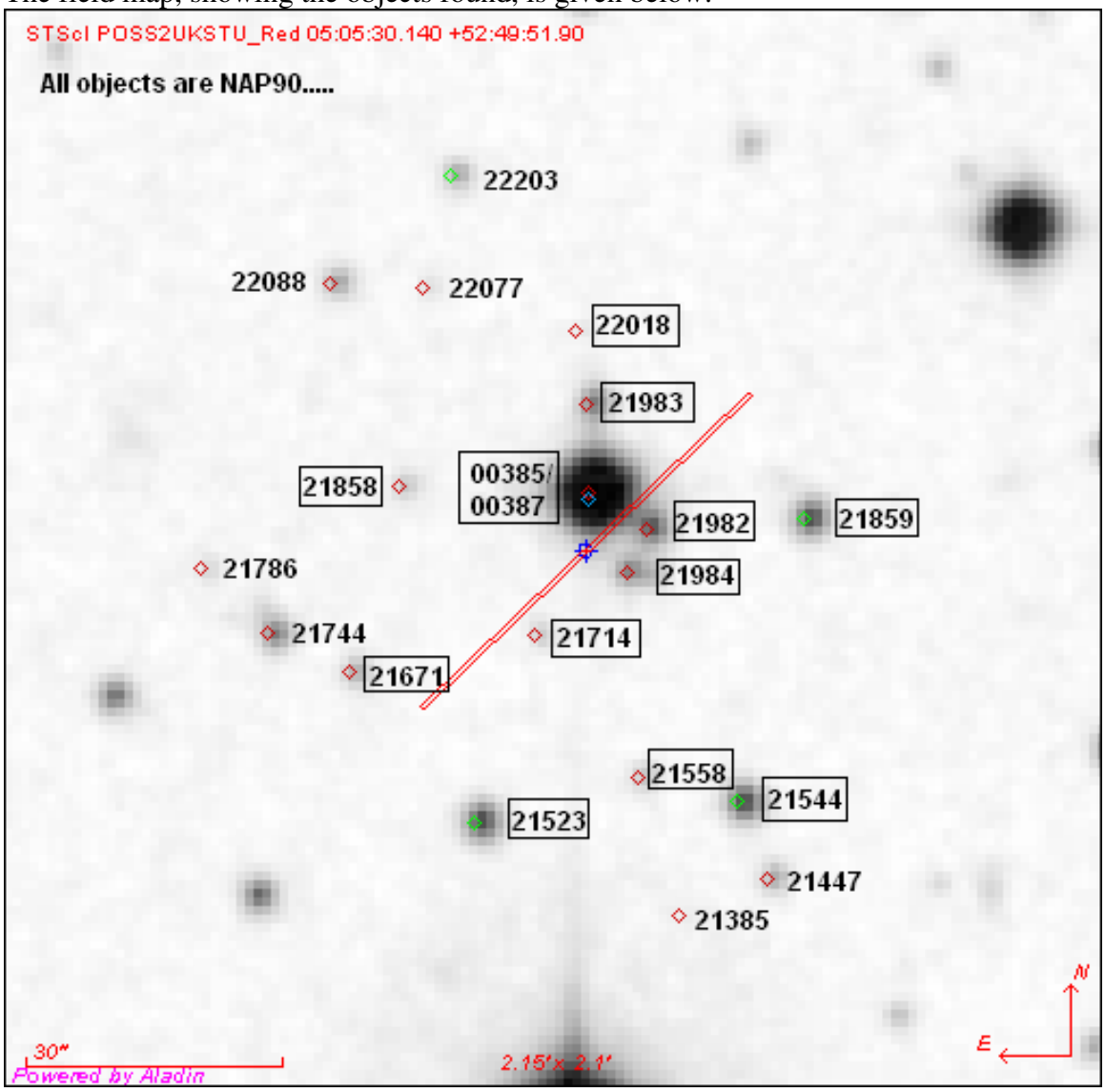


In the figure, the objects in boxes were found by the VTT/BOT.

A spectroscopic observation was also processed, with the VTT/BOT using a search radius of 35.4" and the new BOT using 47.4". All stars found by the old VTT/BOT were found by the new BOT, while 7 additional stars were found by the new BOT (both in the extended region of the new BOT search area); the magnitudes and derived count rates were identical. The 20 objects detected (2 Science, 4 Safe, and 14 Unknown) were:

OBJECT ID	RA	Dec	F	J	V	B-V	Type	New	VTT
NAP9021859	05 05 27.8199	+52 49 50.20	16.37	17.42	16.85	0.37	F0V	Y	Y
NAP9021447	05 05 28.2105	+52 49 8.15	18.4	19.69	---	---	not a star	Y	N
NAP9021544	05 05 28.6232	+52 49 16.96	16.37	17.3	16.8	0.29	A5V	Y	Y
NAP9021385	05 05 29.3488	+52 49 3.70	19.98	---	---	---	not a star	Y	N
NAP9021982	05 05 29.8387	+52 49 48.73	16.82	---	---	---	not a star	Y	Y
NAP9021558	05 05 29.9115	+52 49 19.67	18.87	20.18	---	---	not a star	Y	Y
NAP9021984	05 05 30.0681	+52 49 43.51	17.57	---	---	---	not a star	Y	Y
NAP9000385	05 05 30.5968	+52 49 52.68	11.84	11.45	11.69	-0.62	**O5V**	Y	Y
NAP9000387	05 05 30.6069	+52 49 51.92	---	---	11.68	-0.25	**O5V**	Y	Y
NAP9021983	05 05 30.6445	+52 50 3.23	17.22	18.56	---	---	not a star	Y	Y
NAP9022018	05 05 30.7848	+52 50 11.67	20.21	---	---	---	not a star	Y	Y
NAP9021714	05 05 31.2701	+52 49 36.12	19.03	20.35	---	---	not a star	Y	Y
NAP9021523	05 05 32.0052	+52 49 14.15	16.3	17.85	17.02	0.72	G5V	Y	Y
NAP9022203	05 05 32.4531	+52 50 29.57	18.29	19.61	18.9	0.55	F5V	Y	N
NAP9022077	05 05 32.7828	+52 50 16.40	19.79	22.33	---	---	not a star	Y	N
NAP9021858	05 05 33.0508	+52 49 53.18	18.81	20.48	---	---	not a star	Y	Y
NAP9021671	05 05 33.6567	+52 49 31.37	18.36	20.37	---	---	not a star	Y	Y
NAP9022088	05 05 33.9734	+52 50 16.81	18.13	19.8	---	---	not a star	Y	N
NAP9021744	05 05 34.7154	+52 49 35.81	17.09	18.8	---	---	not a star	Y	N
NAP9021786	05 05 35.5867	+52 49 43.14	19.47	20.76	---	---	not a star	Y	N

The field map, showing the objects found, is given below.



In the figure, the objects in boxes were found by the VTT/BOT.

Issues

There appears to be a slight misalignment between the BOT overlay and the DSS image, which is 0.2" in both RA and Dec. The RA offset is consistent (the BOT overlay is always east of the star), while the Dec offset is sometimes north and sometimes south. This discrepancy is small enough (0.2 pixels) to be of no concern, but is covered under APT-VTT PR 56217.

New Features

Exposure Expansion

For the STIS CCD, there are three ways for exposures to be expanded – CR-SPLIT, number of iterations greater than 1, and the use of a pattern. The pattern case is detailed in the Pointing Adjustment section below. For the CR-SPLIT case, a value of 3 was used, and three identical sub-exposures were created, each with one third of the nominal exposure time. For the number of iterations test, a value of 3 was used. In this case, three identical sub-exposures were generated, and BOT processing was performed on all three sub-exposures with identical results. Aladin did display the BOT overlay, although there was only 1 image plane shown, unlike the Pattern case where each sub-exposure was its own plane. Since the number of iterations planes would all be, by definition, identical, showing only 1 plane is acceptable (however, if the actual duration field was used, a problem could result; see below).

Pointing Adjustment

There are 3 different types of pointing adjustments valid for the STIS CCD – POS TARG, PATTERN, and use as a PARALLEL instrument.

POS TARG

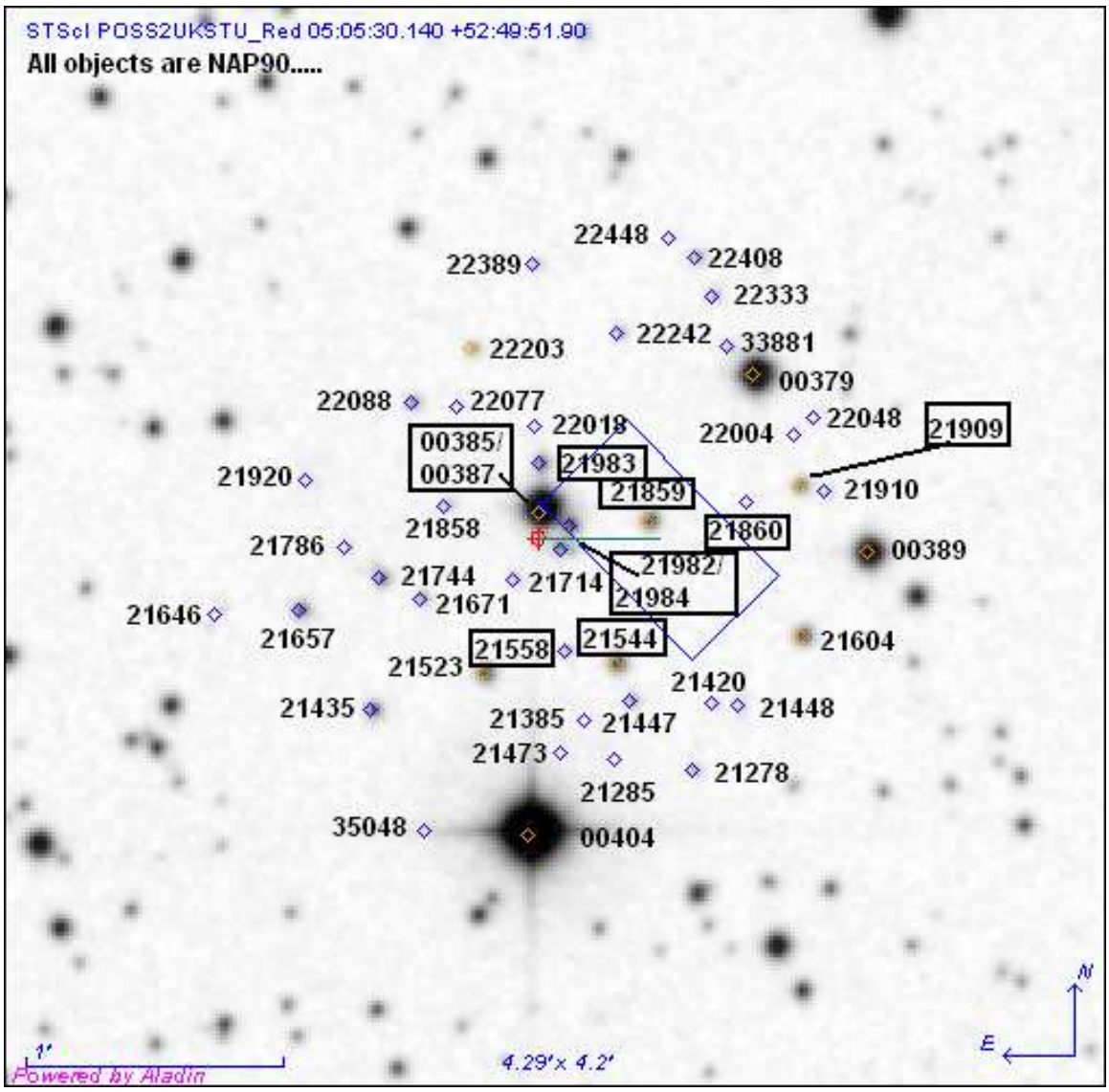
For this test, the standard exposure was modified by adding a POS TARG of X=-20” and Y=-20”. The direction of the POS TARG is important in this test, and in order to be able to simply predict the size of the POS TARG motion, the motion must be in the same direction as the "Search Radius Vector" which is defined as the point from the fiducial to the outermost corner of the Aperture. A selection in a different direction makes the calculation of the motion vector more complicated.

The test exposure was run through both the VTT/BOT and the new BOT/Aladin interface. The VTT/BOT used a search radius of 35.4”, and only did analysis at the exact pointing (i.e. it assumed ORIENT=0). The new BOT increased the search radius to 77.8”, which resulted in a circle being analyzed to support any possible ORIENT value. The search radius for the new BOT without the POS TARG was 50.0”, so the increased search radius is exactly what was predicted (i.e. SQRT(20*20 + 20*20) = 28). With the increased search radius, the new BOT analyzed more objects than the VTT/BOT, but all objects in the VTT/BOT were detected, and for those objects, the magnitudes and derived count rates were identical.

The 46 objects (11 Science, and 35 Unknown) detected were:

OBJECT ID	RA	Dec	F	J	V	B-V	Type	New	VTT
NAP9000379	05 05 25.1517	+52 50 24.68	12.56	14.06	13.25	0.69	G5V	Y	N
NAP9000385	05 05 30.5968	+52 49 52.68	11.84	11.45	11.69	-0.62	**O5V**	Y	Y
NAP9000387	05 05 30.6069	+52 49 51.92	unknown	unknown	11.68	-0.25	**O5V**	Y	Y
NAP9000389	05 05 22.1724	+52 49 43.72	13.25	14.31	13.74	0.39	F0V	Y	N
NAP9000404	05 05 30.7637	+52 48 36.57	---	---	9.97	0.99	K0V	Y	N
NAP9021278	05 05 26.5783	+52 48 52.32	18.91	20.19	---	---	not a star	Y	N
NAP9021285	05 05 28.5996	+52 48 54.64	20.26	---	---	---	not a star	Y	N
NAP9021385	05 05 29.3488	+52 49 3.70	19.98	---	---	---	not a star	Y	N
NAP9021420	05 05 26.1004	+52 49 7.91	19.76	20.86	---	---	not a star	Y	N
NAP9021435	05 05 34.8698	+52 49 5.12	17.03	18.75	---	---	not a star	Y	N
NAP9021447	05 05 28.2105	+52 49 8.15	18.4	19.69	---	---	not a star	Y	N
NAP9021448	05 05 25.4187	+52 49 7.49	18.91	20.82	---	---	not a star	Y	N
NAP9021473	05 05 29.9553	+52 48 56.09	19.97	---	---	---	not a star	Y	N
NAP9021523	05 05 32.0052	+52 49 14.15	16.3	17.85	17.02	0.72	G5V	Y	N
NAP9021544	05 05 28.6232	+52 49 16.96	16.37	17.3	16.8	0.29	A5V	Y	Y
NAP9021558	05 05 29.9115	+52 49 19.67	18.87	20.18	unknown	unknown	not a star	Y	Y
NAP9021604	05 05 23.8381	+52 49 23.98	16.4	17.5	16.9	0.41	F0V	Y	N
NAP9021646	05 05 38.9047	+52 49 26.65	19.02	---	---	---	not a star	Y	N
NAP9021657	05 05 36.7715	+52 49 28.08	17.06	19.03	---	---	not a star	Y	N
NAP9021671	05 05 33.6567	+52 49 31.37	18.36	20.37	---	---	not a star	Y	N
NAP9021714	05 05 31.2701	+52 49 36.12	19.03	20.35	---	---	not a star	Y	N
NAP9021744	05 05 34.7154	+52 49 35.81	17.09	18.8	---	---	not a star	Y	N
NAP9021786	05 05 35.5867	+52 49 43.14	19.47	20.76	---	---	not a star	Y	N
NAP9021858	05 05 33.0508	+52 49 53.18	18.81	20.48	---	---	not a star	Y	N
NAP9021859	05 05 27.8199	+52 49 50.20	16.37	17.42	16.85	0.37	F0V	Y	Y
NAP9021860	05 05 25.2752	+52 49 54.84	20.14	unknown	unknown	unknown	not a star	Y	Y
NAP9021909	05 05 23.9571	+52 49 58.98	17.42	18.63	17.97	0.48	F5V	Y	Y
NAP9021910	05 05 23.3054	+52 49 57.76	19.25	20.85	---	---	not a star	Y	N
NAP9021920	05 05 36.6385	+52 49 58.55	19.13	21.89	---	---	not a star	Y	N
NAP9021982	05 05 29.8387	+52 49 48.73	16.82	unknown	unknown	unknown	not a star	Y	Y
NAP9021983	05 05 30.6445	+52 50 3.23	17.22	18.56	unknown	unknown	not a star	Y	Y
NAP9021984	05 05 30.0681	+52 49 43.51	17.57	unknown	unknown	unknown	not a star	Y	Y
NAP9022004	05 05 24.0734	+52 50 11.06	20.44	---	---	---	not a star	Y	N
NAP9022018	05 05 30.7848	+52 50 11.67	20.21	---	---	---	not a star	Y	N
NAP9022048	05 05 23.5777	+52 50 15.16	19.83	---	---	---	not a star	Y	N
NAP9022077	05 05 32.7828	+52 50 16.40	19.79	22.33	---	---	not a star	Y	N
NAP9022088	05 05 33.9734	+52 50 16.81	18.13	19.8	---	---	not a star	Y	N
NAP9022203	05 05 32.4531	+52 50 29.57	18.29	19.61	18.9	0.55	F5V	Y	N
NAP9022242	05 05 28.6863	+52 50 33.77	18.73	20.54	---	---	not a star	Y	N
NAP9022333	05 05 26.2653	+52 50 42.93	18.79	20.47	---	---	not a star	Y	N
NAP9022389	05 05 30.8746	+52 50 49.47	19.05	21.7	---	---	not a star	Y	N
NAP9022408	05 05 26.7091	+52 50 51.82	18.39	19.94	---	---	not a star	Y	N
NAP9022448	05 05 27.3770	+52 50 56.27	19.9	---	---	---	not a star	Y	N
NAP9033879	05 05 25.8698	+52 50 31.17	---	20.7	---	---	not a star	Y	N
NAP9033881	05 05 25.8671	+52 50 31.18	---	20.66	---	---	not a star	Y	N
NAP9035048	05 05 33.4252	+52 48 37.19	---	---	---	---	not a star	Y	N

The field map, showing the objects found, is given below.



In the figure, the objects in boxes were found by the VTT/BOT. The new objects are all in the area that is expected.

Pattern

For this test, the standard exposure was modified by putting it in a PATTERN (an STIS-ALONG-SLIT with 3 points with a 10" spacing at an orientation of 90^{o}). The orientation could not be set to be along the "Search Radius Vector", so determination of the accuracy of the search radii had to be performed be measurement in Aladin.

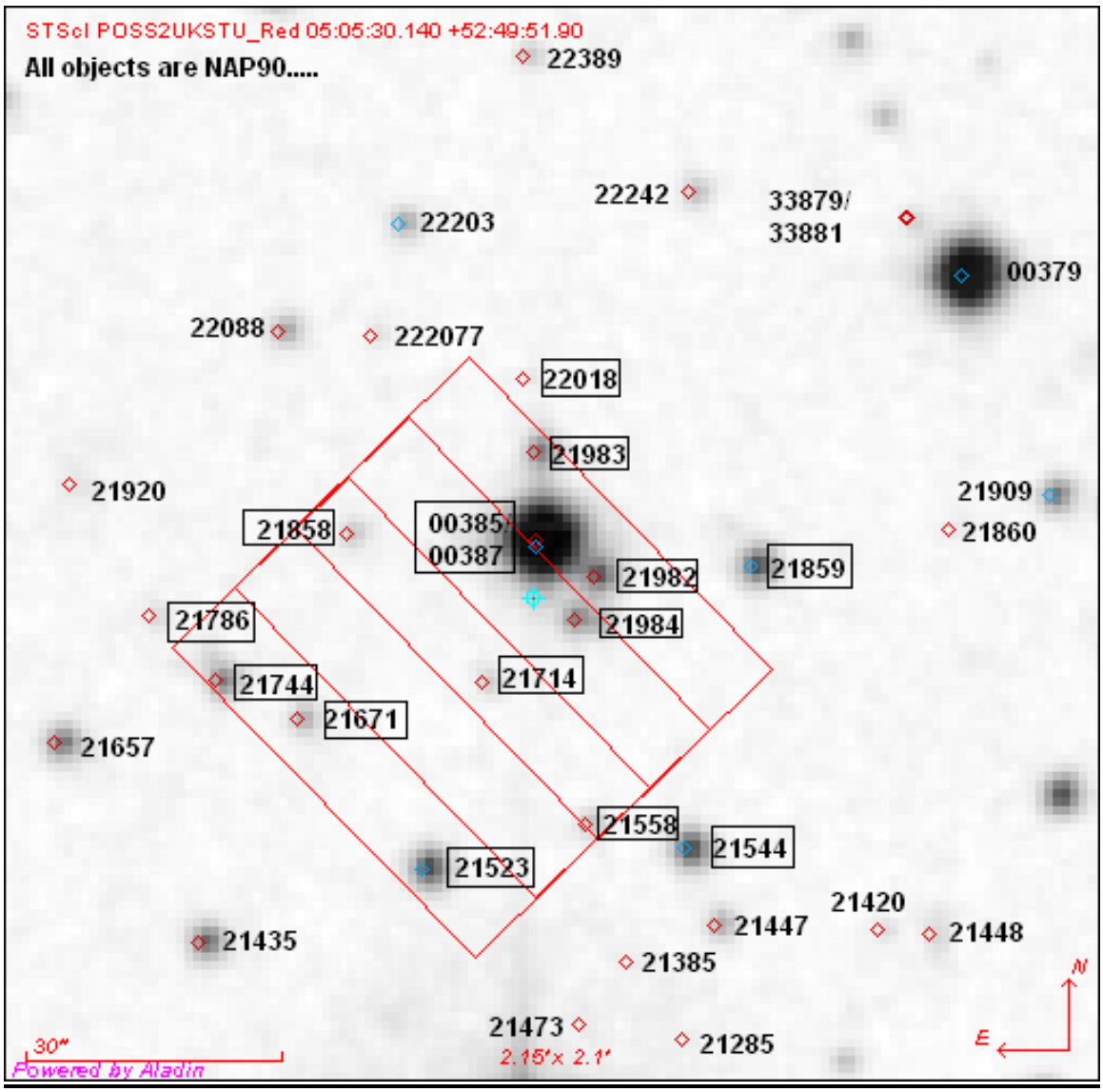
The test exposure was run through both the VTT/BOT and the new BOT/Aladin interface. The VTT/BOT used a search radius of 35.4" at all three pattern points. The new BOT used different radii for its searches – one for the initial pointing (with the

standard 50.0” search radius), one for the second pattern exposure (with the search radius increased to 56.0”), and one for the final pattern exposure (with a search radius of 63.6. The expanded search radius was measured to be (approximately) 54” and 62” for the second and third pattern exposure, respectively, very close to the values used by BOT. With the increased search radius, the new BOT analyzed more objects than the VTT/BOT, but all objects in the VTT/BOT were detected, and for those objects, the magnitudes and derived count rates were identical.

The 34 objects (8 Science and 26 Unknown) detected were:

OBJECT ID	RA	Dec	F	J	V	B-V	Type	New	VTT
NAP9000385	05 05 30.5968	+52 49 52.68	11.84	11.45	11.69	-0.62	**O5V**	Y	Y
NAP9000387	05 05 30.6069	+52 49 51.92	---	---	11.68	-0.25	**O5V**	Y	Y
NAP9021523	05 05 32.0052	+52 49 14.15	16.3	17.85	17.02	0.72	G5V	Y	Y
NAP9021544	05 05 28.6232	+52 49 16.96	16.37	17.3	16.8	0.29	A5V	Y	Y
NAP9021558	05 05 29.9115	+52 49 19.67	18.87	20.18	---	---	not a star	Y	Y
NAP9021671	05 05 33.6567	+52 49 31.37	18.36	20.37	---	---	not a star	Y	Y
NAP9021714	05 05 31.2701	+52 49 36.12	19.03	20.35	---	---	not a star	Y	Y
NAP9021744	05 05 34.7154	+52 49 35.81	17.09	18.8	---	---	not a star	Y	Y
NAP9021786	05 05 35.5867	+52 49 43.14	19.47	20.76	---	---	not a star	Y	Y
NAP9021858	05 05 33.0508	+52 49 53.18	18.81	20.48	---	---	not a star	Y	Y
NAP9021859	05 05 27.8199	+52 49 50.20	16.37	17.42	16.85	0.37	F0V	Y	Y
NAP9021982	05 05 29.8387	+52 49 48.73	16.82	---	---	---	not a star	Y	Y
NAP9021983	05 05 30.6445	+52 50 3.23	17.22	18.56	---	---	not a star	Y	Y
NAP9021984	05 05 30.0681	+52 49 43.51	17.57	---	---	---	not a star	Y	Y
NAP9022018	05 05 30.7848	+52 50 11.67	20.21	---	---	---	not a star	Y	Y
NAP9000379	05 05 25.1517	+52 50 24.68	12.56	14.06	13.25	0.69	G5V	Y	N
NAP9021285	05 05 28.5996	+52 48 54.64	20.26	---	---	---	not a star	Y	N
NAP9021385	05 05 29.3488	+52 49 3.70	19.98	---	---	---	not a star	Y	N
NAP9021420	05 05 26.1004	+52 49 7.91	19.76	20.86	---	---	not a star	Y	N
NAP9021435	05 05 34.8698	+52 49 5.12	17.03	18.75	---	---	not a star	Y	N
NAP9021447	05 05 28.2105	+52 49 8.15	18.4	19.69	---	---	not a star	Y	N
NAP9021448	05 05 25.4187	+52 49 7.49	18.91	20.82	---	---	not a star	Y	N
NAP9021473	05 05 29.9553	+52 48 56.09	19.97	---	---	---	not a star	Y	N
NAP9021657	05 05 36.7715	+52 49 28.08	17.06	19.03	---	---	not a star	Y	N
NAP9021860	05 05 25.2752	+52 49 54.84	20.14	---	---	---	not a star	Y	N
NAP9021909	05 05 23.9571	+52 49 58.98	17.42	18.63	17.97	0.48	F5V	Y	N
NAP9021920	05 05 36.6385	+52 49 58.55	19.13	21.89	---	---	not a star	Y	N
NAP9022077	05 05 32.7828	+52 50 16.40	19.79	22.33	---	---	not a star	Y	N
NAP9022088	05 05 33.9734	+52 50 16.81	18.13	19.8	---	---	not a star	Y	N
NAP9022203	05 05 32.4531	+52 50 29.57	18.29	19.61	18.9	0.55	F5V	Y	N
NAP9022242	05 05 28.6863	+52 50 33.77	18.73	20.54	---	---	not a star	Y	N
NAP9022389	05 05 30.8746	+52 50 49.47	19.05	21.7	---	---	not a star	Y	N
NAP9033879	05 05 25.8698	+52 50 31.17	---	20.7	---	---	not a star	Y	N
NAP9033881	05 05 25.8671	+52 50 31.18	---	20.66	---	---	not a star	Y	N

The field map, showing the objects found, is given below.



In the figure, the objects in boxes were found by the VTT/BOT. The new objects are all in the area that is expected.

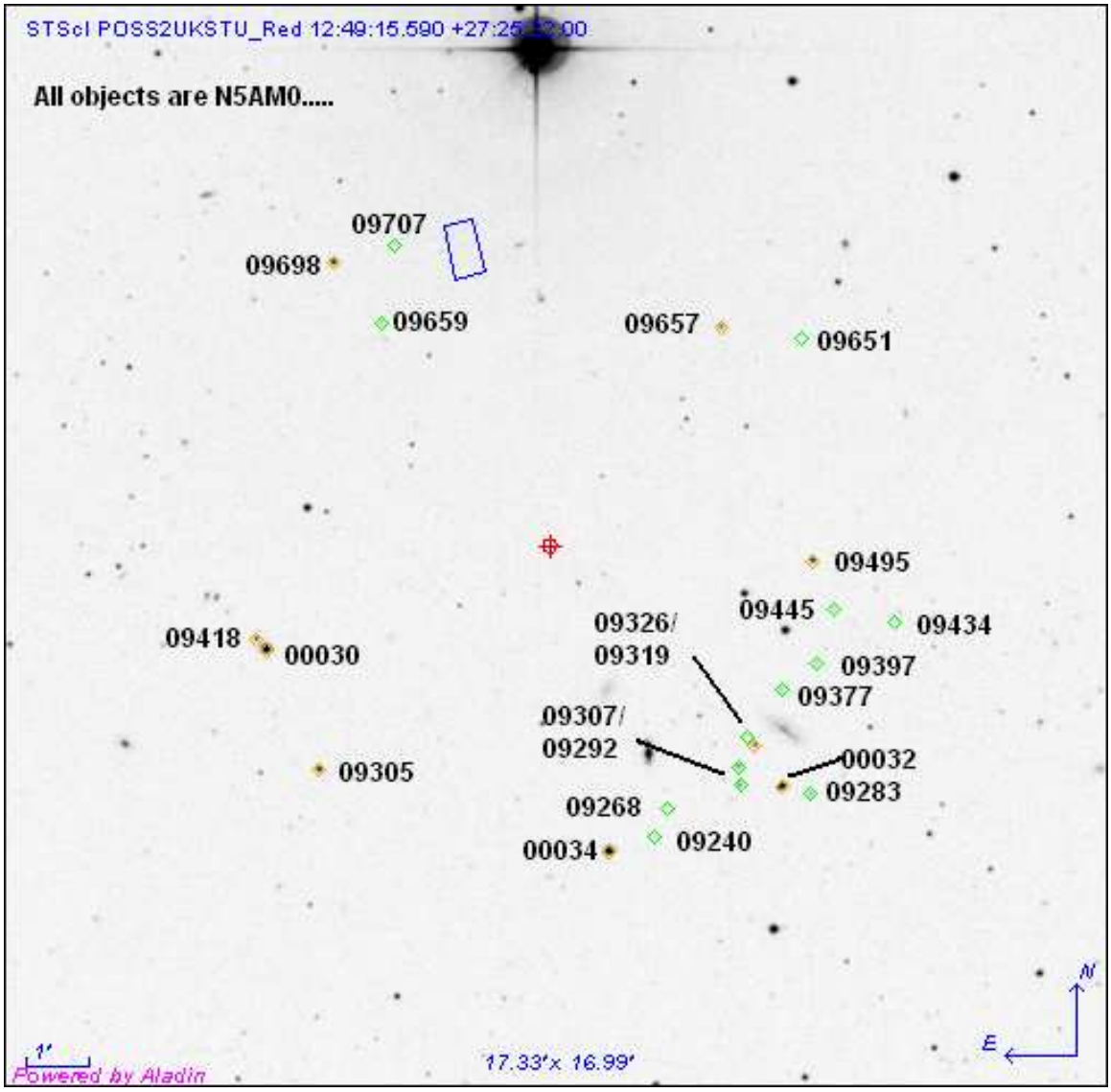
Parallel

For this test, the standard exposure was modified making it be a coordinated parallel observation with a WPFC2 prime exposure. The test exposure was run through the new BOT/Aladin interface only; the old VTT/BOT did not take the position of the parallel aperture into account when performing its checking. The search radius used by BOT was 5.64'. The separation between the PC and STIS/CCD is 4.85', and after adding 0.83' for the standard search radius, the approximate search radius BOT should have used is 5.68', in excellent agreement with what BOT used.

A total of 206 stars were found in the new BOT, so the table below only lists the science (8) and safe objects (14). The objects detected were:

OBJECT ID	RA	Dec	F	J	V	B-V	Type
N5AM000030	12 49 35.9913	+27 23 40.82	12.7	13.74	13.18	0.37	F0V
N5AM000032	12 48 59.3501	+27 21 38.92	13.76	14.54	14.13	0.19	A5V
N5AM000034	12 49 11.5542	+27 20 35.71	12.85	13.81	13.3	0.31	F0V
N5AM009240	12 49 8.3570	+27 20 49.36	19.38	21.27	20.27	0.84	K0V
N5AM009268	12 49 7.4731	+27 21 17.68	19.95	20.56	20.24	-0.02	B5V
N5AM009283	12 48 57.3667	+27 21 32.35	18.16	20.49	19.31	1.24	K4V
N5AM009292	12 49 2.3690	+27 21 39.69	17.25	19.56	18.38	1.24	K4V
N5AM009305	12 49 32.1213	+27 21 48.22	15.35	17.22	16.23	0.94	K0V
N5AM009307	12 49 2.4803	+27 21 56.93	17.27	18.94	18.04	0.81	G5V
N5AM009319	12 49 1.3461	+27 22 17.51	16.89	17.74	17.29	0.24	A5V
N5AM009326	12 49 1.8460	+27 22 25.20	19.93	20.75	20.32	0.12	A1V
N5AM009377	12 48 59.4980	+27 23 10.21	18.79	19.92	19.31	0.42	F0V
N5AM009397	12 48 57.0965	+27 23 35.63	19.15	19.99	19.54	0.21	A5V
N5AM009418	12 49 36.6964	+27 23 49.99	16.53	17.52	16.98	0.34	F0V
N5AM009434	12 48 51.5478	+27 24 15.02	19.21	21.14	20.12	0.88	K0V
N5AM009445	12 48 55.9244	+27 24 26.05	19.33	21.56	20.42	1.01	K0V
N5AM009495	12 48 57.4442	+27 25 11.86	15.59	16.95	16.21	0.6	F5V
N5AM009651	12 48 58.4882	+27 28 42.03	20.19	20.9	20.52	0	B5V
N5AM009657	12 49 4.1752	+27 28 50.41	16.87	19.27	18.06	1.31	K4V
N5AM009659	12 49 28.1989	+27 28 48.58	18.71	20.31	19.45	0.74	G5V
N5AM009698	12 49 31.6534	+27 29 45.58	15.38	16.09	15.71	0.15	A5V
N5AM009707	12 49 27.3581	+27 30 2.96	19.39	20.18	19.76	0.16	A5V

The field map, showing the objects found, is given below.



Actual Duration

There are three ways in which the STIS CCD can use actual durations – a CR-SPLIT exposure, a pattern exposure and a number of iterations greater than 1 exposure. For this test, the third piece of the CR-SPLIT will have the actual duration set to 500s, the second piece of a pattern will have the actual duration set to 500s, and the second of three exposures in a number of iterations=3 will have the actual duration set to 500s.

CR-SPLIT

An examination of the BOT details shows that the revised exposure time for the third piece of the pattern was indeed detected by the tool, as was evidenced by differing total counts for the targets.

Pattern
An examination of the BOT details shows that the revised exposure time for the second piece of the pattern was indeed detected by the tool, as was evidenced by differing total counts for the targets.

Number of iterations
An examination of the BOT details shows that the revised exposure time for the second sub-exposure was indeed detected by the tool.

Issue
For actual duration and number of iterations, only the first sub-exposure is shown in Aladin. If there were different actual durations, both sub-exposures would need to be display, as they could have different answers. This is a problem is covered in APT-BOT OPR 56136, and *should be corrected prior to the release of the tool for STIS/CCD usage.*

Visualization

There are many aspects to this test, all of which have already been verified by the previous ACS/SBC and ACS/HRC testing

Issue
Aladin spreadsheet name link to an external html page with more details fails for the GSC2; this is covered with APT-VTT PR 56234.

Existing Proposals

I ran BOT on four cycle 12 (the last cycle with STIS) operational. All ran successfully, and in a reasonable amount of time. However, one issue was found in the testing.

Issue
STIS ACQ exposures, although fully supported, should not be supported by BOT; this is covered in APT-BOT OPR 56643.

Exception Handling

There are four types of exception handling to be tested; Network Query Error and Cancel Ongoing Operations have been verified in the ACS/SBC testing, and Bad Exposures has been verified in the ACS/HRC testing.

Unsupported Exposures

Given the large number of unsupported STIS apertures, I ran all (at least a representative entry for each type (e.g. for the E1 apertures, I only ran one)) supported apertures to confirm that they processed. I also verified that the quad filter, as well as a sample of the most commonly used unsupported apertures, did not process.

Issue

The E1 (spectroscopic) apertures, which are supported, did not process. This is due to the fact that these apertures were added for the last cycle of STIS, and STIS ceased operations prior to their usage. Consequently, they were never added into BOT; these are covered by BOT-OPR 56645, and *should be added prior to the release of BOT for STIS/CCD usage*.