Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Procedure Title: **Standard Flatfield - Full FOV**

Last Date Modified: 16/07/99 10:31:16

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Purpose of Procedure:

This procedure executes an standard OM Flatfield exposure.

The Flatfield procedure executes four consecutive exposures covering the complete instrument Field of View. Each exposure covers a Choose Guide Star task plus an Accumulate and Track. The four images received provide the OM flatfield data for calibration purposes.

This procedure is foreseen to be used during the OM SVT.

Initial State: OM ON ICU in SCIENCE Mode. Filter Wheel in BLOCKED position. LEDS at Level 1

Final State: OM ON ICU in SCIENCE Mode. Filter Wheel in BLOCKED position. LEDs OFF.

Step	Time	Activity/Remarks	Command	TM Verification
1		Confirm OM in an SCIENCE Mode.		***AND: H100*** H5395 "OM STATE" = SCIENCE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
2		SETUP FOR FLATFIELD EXPOSURE		
2.1		Turn OFF Tracking	**H7256** SET TRACKING **H1040 "TRACKING CTL" = OFF	***AND: H110*** H5365 "TRACKING" = OFF
2.2		Set BPE binning ON	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
2.3		Change Mode to ICU Mode 2 - IDLE Mode.	**H9002** GOTO IDLE	***AND: H100*** H5395 "OM STATE" = IDLE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
2.4		Change Mode to ICU Mode 4 - ENGINEERING Mode.	**H9004** GOTO ENG	***AND: H100*** H5395 "OM STATE" = ENGINEERING H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
2.5		Turn on the flood LEDs to level 4. (5uA)	**H7134** SET FLOOD LED **H0140 "LED CURRENT" = 5 UAMP	***AND: H110*** H5195 "FLOOD LED BIAS" = 5.000
2.6		Change Mode to ICU Mode 2 - IDLE Mode.	**H9002** GOTO IDLE	***AND: H100*** H5395 "OM STATE" = IDLE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
2.7		Change Mode to ICU Mode 3 - SCIENCE Mode.	**H9003** GOTO SCIENCE	***AND: H100*** H5395 "OM STATE" = SCIENCE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
3		CHOOSE GUIDE STARS EXPOSURE 1		
3.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN

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Step	Time	Activity/Remarks	Command	TM Verification
3.2		Define the Detector Window parameters to be loaded. 4 128x128 Windows covering complete CCD	**H7110** LOAD WINDOW TAB **H0010 "VERIFICATION CTL" = ENABLED **H0040 "NO OF WINDOWS" = 4 **H0050 "XLOW WINDOW 1" = 52 **H0051 "YLOW WINDOW 1" = 27 **H0052 "XSIZE WINDOW 1" = 128 **H0053 "YSIZE WINDOW 1" = 128 **H0054 "XLOW WINDOW 2" = 52 **H0055 "YLOW WINDOW 2" = 155 **H0056 "XSIZE WINDOW 2" = 128 **H0057 "YSIZE WINDOW 2" = 128 **H0058 "XLOW WINDOW 3" = 180 **H0059 "YLOW WINDOW 3" = 27 **H0060 "XSIZE WINDOW 3" = 128 **H0061 "YSIZE WINDOW 3" = 128 **H0062 "XLOW WINDOW 4" = 180 **H0063 "YLOW WINDOW 4" = 155 **H0064 "XSIZE WINDOW 4" = 128 **H0065 "YSIZE WINDOW 4" = 128 H0066 "XLOW WINDOW 5" = 0.000 H0067 "YLOW WINDOW 5" = 0.000 H0068 "XSIZE WINDOW 5" = 0.000 H0069 "YSIZE WINDOW 5" = 0.000 H0070 "XLOW WINDOW 6" = 0.000 H0071 "YLOW WINDOW 6" = 0.000 H0072 "XSIZE WINDOW 6" = 0.000 H0073 "YSIZE WINDOW 6" = 0.000 H0074 "XLOW WINDOW 7" = 0.000 H0075 "YLOW WINDOW 7" = 0.000 H0076 "XSIZE WINDOW 7" = 0.000 H0077 "YSIZE WINDOW 7" = 0.000 H0078 "XLOW WINDOW 8" = 0.000 H0079 "YLOW WINDOW 8" = 0.000 H0080 "XSIZE WINDOW 8" = 0.000 H0081 "YSIZE WINDOW 8" = 0.000 H0082 "XLOW WINDOW 9" = 0.000 H0083 "YLOW WINDOW 9" = 0.000 H0084 "XSIZE WINDOW 9" = 0.000 H0085 "YSIZE WINDOW 9" = 0.000 H0086 "XLOW WINDOW 10" = 0.000 H0087 "YLOW WINDOW 10" = 0.000 H0088 "XSIZE WINDOW 10" = 0.000 H0089 "YSIZE WINDOW 10" = 0.000 H0090 "XLOW WINDOW 11" = 0.000 H0091 "YLOW WINDOW 11" = 0.000 H0092 "XSIZE WINDOW 11" = 0.000 H0093 "YSIZE WINDOW 11" = 0.000 H0094 "XLOW WINDOW 12" = 0.000 H0095 "YLOW WINDOW 12" = 0.000 H0096 "XSIZE WINDOW 12" = 0.000 H0097 "YSIZE WINDOW 12" = 0.000 H0098 "XLOW WINDOW 13" = 0.000 H0099 "YLOW WINDOW 13" = 0.000 H0100 "XSIZE WINDOW 13" = 0.000 H0101 "YSIZE WINDOW 13" = 0.000 H0102 "XLOW WINDOW 14" = 0.000 H0103 "YLOW WINDOW 14" = 0.000 H0104 "XSIZE WINDOW 14" = 0.000 H0105 "YSIZE WINDOW 14" = 0.000 H0106 "XLOW WINDOW 15" = 0.000 H0107 "YLOW WINDOW 15" = 0.000 H0108 "XSIZE WINDOW 15" = 0.000 H0109 "YSIZE WINDOW 15" = 0.000	
3.3		Load window defined in previous step. This TC starts the Load Window task.	**H5110** LOAD WINDOW TAB	

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Step	Time	Activity/Remarks	Command	TM Verification
3.4		Set Exposure ID.	**H7238** SET EXPOSURE ID **H0530 "EXPOSURE ID" = 200	
3.5		Initialise the Exposure by sending the IC_INIT_EXP task This command sets up the DPU to acquire detector data in 1kx1k format (I.e. detector binned by 2)	**H7249** INIT EXPOSURE	
3.6	00:00:03	Wait for 3 seconds for the EOT_INIT_EXP report. Packet 92213 (PK Dump 1158 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =200 H7680 "TIMESTAMP" =
3.7		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
3.8		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
3.9		Set the DPU Frame Time to 25.	**H7236** SET FRAME TIME **H0710 "NUM DPU CYCLES" = 25 msec	
3.10		Load Memory Window configuration. IC_LOAD_MEM_WINDOW	**H7242** LOAD MEM WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1159 "NMWIND" = 1 **H1050 "X0 WIN 1" = 0 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 1024 **H1053 "YSIZE WIN 1" = 1024 H1054 "X0 WIN 2" = 0.000 H1055 "Y0 WIN 2" = 0.000 H1056 "XSIZE WIN 2" = 0.000 H1057 "YSIZE WIN 2" = 0.000 H1058 "X0 WIN 3" = 0.000 H1059 "Y0 WIN 3" = 0.000 H1060 "XSIZE WIN 3" = 0.000 H1061 "YSIZE WIN 3" = 0.000 H1062 "X0 WIN 4" = 0.000 H1063 "Y0 WIN 4" = 0.000 H1064 "XSIZE WIN 4" = 0.000 H1065 "YSIZE WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000	

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Step	Time	Activity/Remarks	Command	TM Verification
3.11		Load Science Window configuration. IC_LOAD_SCI_WINDOW	**H7243** LOAD SCI WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1161 "NSCIWIND" = 4 **H1050 "X0 WIN 1" = 0 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 64 **H1053 "YSIZE WIN 1" = 1024 **H1070 "MODE WIN 1" = IMAGE H1071 "PARAM1 WIN 1" = 0.000 H1072 "PARAM2 WIN 1" = 0.000 H1073 "PARAM3 WIN 1" = 0.000 H1074 "PARAM4 WIN 1" = 0.000 **H1054 "X0 WIN 2" = 64 **H1055 "Y0 WIN 2" = 0 **H1056 "XSIZE WIN 2" = 64 **H1057 "YSIZE WIN 2" = 1024 H1075 "MODE WIN 2" = 0.000 H1076 "PARAM1 WIN 2" = 0.000 H1077 "PARAM2 WIN 2" = 0.000 H1078 "PARAM3 WIN 2" = 0.000 H1079 "PARAM4 WIN 2" = 0.000 **H1058 "X0 WIN 3" = 128 **H1059 "Y0 WIN 3" = 0 **H1060 "XSIZE WIN 3" = 64 **H1061 "YSIZE WIN 3" = 1024 H1080 "MODE WIN 3" = 0 H1081 "PARAM1 WIN 3" = 0.000 H1082 "PARAM2 WIN 3" = 0.000 H1083 "PARAM3 WIN 3" = 0.000 H1084 "PARAM4 WIN 3" = 0.000 **H1062 "X0 WIN 4" = 192 **H1063 "Y0 WIN 4" = 0 **H1064 "XSIZE WIN 4" = 64 **H1065 "YSIZE WIN 4" = 1024 H1085 "MODE WIN 4" = 0 H1086 "PARAM1 WIN 4" = 0.000 H1087 "PARAM2 WIN 4" = 0.000 H1088 "PARAM3 WIN 4" = 0.000 H1089 "PARAM4 WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000 H1090 "MODE WIN 5" = 0 H1091 "PARAM1 WIN 5" = 0.000 H1092 "PARAM2 WIN 5" = 0.000 H1093 "PARAM3 WIN 5" = 0.000 H1094 "PARAM4 WIN 5" = 0.000	
3.12		Set Exposure Time in units of Frames to 20	**H7237** SET EXPOSE TIME **H0720 "NUMBER FRAMES" = 20	
3.13		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
3.14		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
3.15		Start the Choose Guide Star Task on the DPU. IC_CHOOSE_GS	**H7251** CHOOSE GUIDE STA	

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Step	Time	Activity/Remarks	Command	TM Verification
3.16	00:01:21	Wait up to Frame Time (<1s) + 80 seconds for the Choose Guide Star End of Task Alert. DA_EOT_CHOOSE_GS. Packet 92212 (PK Dump 1156 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =200 H7680 "TIMESTAMP" =
3.17		Stop Integration	**H6130** STOP DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = DISABLED
4		ACCUMULATE AND TRACK EXP 1		
4.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN
4.2		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
4.3		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
4.4		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
4.5		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
4.6		START EXPOSURE 1	**H7252** TRACK GUIDESTARS	
4.7	00:00:11	Wait up to 11s for complete exposure alert DA_COMPLETE_EXP. This alert signals the completion of the last frame of an exposure. It also indicates the full submission of the science data to the compression queue. Packet 92209 (PK Dump 1153 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =200 H7680 "TIMESTAMP" =
5		CHOOSE GUIDE STARS EXPOSURE 2		
5.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
5.2		Define the Detector Window parameters to be loaded. 4 128x128 Windows covering complete CCD	**H7110** LOAD WINDOW TAB **H0010 "VERIFICATION CTL" = ENABLED **H0040 "NO OF WINDOWS" = 4 **H0050 "XLOW WINDOW 1" = 52 **H0051 "YLOW WINDOW 1" = 27 **H0052 "XSIZE WINDOW 1" = 128 **H0053 "YSIZE WINDOW 1" = 128 **H0054 "XLOW WINDOW 2" = 52 **H0055 "YLOW WINDOW 2" = 155 **H0056 "XSIZE WINDOW 2" = 128 **H0057 "YSIZE WINDOW 2" = 128 **H0058 "XLOW WINDOW 3" = 180 **H0059 "YLOW WINDOW 3" = 27 **H0060 "XSIZE WINDOW 3" = 128 **H0061 "YSIZE WINDOW 3" = 128 **H0062 "XLOW WINDOW 4" = 180 **H0063 "YLOW WINDOW 4" = 155 **H0064 "XSIZE WINDOW 4" = 128 **H0065 "YSIZE WINDOW 4" = 128 H0066 "XLOW WINDOW 5" = 0.000 H0067 "YLOW WINDOW 5" = 0.000 H0068 "XSIZE WINDOW 5" = 0.000 H0069 "YSIZE WINDOW 5" = 0.000 H0070 "XLOW WINDOW 6" = 0.000 H0071 "YLOW WINDOW 6" = 0.000 H0072 "XSIZE WINDOW 6" = 0.000 H0073 "YSIZE WINDOW 6" = 0.000 H0074 "XLOW WINDOW 7" = 0.000 H0075 "YLOW WINDOW 7" = 0.000 H0076 "XSIZE WINDOW 7" = 0.000 H0077 "YSIZE WINDOW 7" = 0.000 H0078 "XLOW WINDOW 8" = 0.000 H0079 "YLOW WINDOW 8" = 0.000 H0080 "XSIZE WINDOW 8" = 0.000 H0081 "YSIZE WINDOW 8" = 0.000 H0082 "XLOW WINDOW 9" = 0.000 H0083 "YLOW WINDOW 9" = 0.000 H0084 "XSIZE WINDOW 9" = 0.000 H0085 "YSIZE WINDOW 9" = 0.000 H0086 "XLOW WINDOW 10" = 0.000 H0087 "YLOW WINDOW 10" = 0.000 H0088 "XSIZE WINDOW 10" = 0.000 H0089 "YSIZE WINDOW 10" = 0.000 H0090 "XLOW WINDOW 11" = 0.000 H0091 "YLOW WINDOW 11" = 0.000 H0092 "XSIZE WINDOW 11" = 0.000 H0093 "YSIZE WINDOW 11" = 0.000 H0094 "XLOW WINDOW 12" = 0.000 H0095 "YLOW WINDOW 12" = 0.000 H0096 "XSIZE WINDOW 12" = 0.000 H0097 "YSIZE WINDOW 12" = 0.000 H0098 "XLOW WINDOW 13" = 0.000 H0099 "YLOW WINDOW 13" = 0.000 H0100 "XSIZE WINDOW 13" = 0.000 H0101 "YSIZE WINDOW 13" = 0.000 H0102 "XLOW WINDOW 14" = 0.000 H0103 "YLOW WINDOW 14" = 0.000 H0104 "XSIZE WINDOW 14" = 0.000 H0105 "YSIZE WINDOW 14" = 0.000 H0106 "XLOW WINDOW 15" = 0.000 H0107 "YLOW WINDOW 15" = 0.000 H0108 "XSIZE WINDOW 15" = 0.000 H0109 "YSIZE WINDOW 15" = 0.000	
5.3		Load window defined in previous step. This TC starts the Load Window task.	**H5110** LOAD WINDOW TAB	

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Step	Time	Activity/Remarks	Command	TM Verification
5.4		Set Exposure ID	**H7238** SET EXPOSURE ID **H0530 "EXPOSURE ID" = 201	
5.5		Initialise the Exposure by sending the IC_INIT_EXP task This command sets up the DPU to acquire detector data in 1kx1k format (I.e. detector binned by 2)	**H7249** INIT EXPOSURE	
5.6		Wait for 3 seconds for the EOT_INIT_EXP report. Packet 92213 (PK Dump 1158 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =201 H7680 "TIMESTAMP" =
5.7		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
5.8		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
5.9		Set the DPU Frame Time to 25.	**H7236** SET FRAME TIME **H0710 "NUM DPU CYCLES" = 25 msec	
5.10		Load Memory Window configuration. IC_LOAD_MEM_WINDOW	**H7242** LOAD MEM WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1159 "NMWIND" = 1 **H1050 "X0 WIN 1" = 0 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 1024 **H1053 "YSIZE WIN 1" = 1024 H1054 "X0 WIN 2" = 0.000 H1055 "Y0 WIN 2" = 0.000 H1056 "XSIZE WIN 2" = 0.000 H1057 "YSIZE WIN 2" = 0.000 H1058 "X0 WIN 3" = 0.000 H1059 "Y0 WIN 3" = 0.000 H1060 "XSIZE WIN 3" = 0.000 H1061 "YSIZE WIN 3" = 0.000 H1062 "X0 WIN 4" = 0.000 H1063 "Y0 WIN 4" = 0.000 H1064 "XSIZE WIN 4" = 0.000 H1065 "YSIZE WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000	

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Step	Time	Activity/Remarks	Command	TM Verification
5.11		Load Science Window configuration. IC_LOAD_SCI_WINDOW	**H7243** LOAD SCI WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1161 "NSCIWIND" = 4 **H1050 "X0 WIN 1" = 256 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 64 **H1053 "YSIZE WIN 1" = 1024 **H1070 "MODE WIN 1" = IMAGE H1071 "PARAM1 WIN 1" = 0.000 H1072 "PARAM2 WIN 1" = 0.000 H1073 "PARAM3 WIN 1" = 0.000 H1074 "PARAM4 WIN 1" = 0.000 **H1054 "X0 WIN 2" = 320 **H1055 "Y0 WIN 2" = 0 **H1056 "XSIZE WIN 2" = 64 **H1057 "YSIZE WIN 2" = 1024 H1075 "MODE WIN 2" = 0.000 H1076 "PARAM1 WIN 2" = 0.000 H1077 "PARAM2 WIN 2" = 0.000 H1078 "PARAM3 WIN 2" = 0.000 H1079 "PARAM4 WIN 2" = 0.000 **H1058 "X0 WIN 3" = 384 **H1059 "Y0 WIN 3" = 0 **H1060 "XSIZE WIN 3" = 64 **H1061 "YSIZE WIN 3" = 1024 H1080 "MODE WIN 3" = 0 H1081 "PARAM1 WIN 3" = 0.000 H1082 "PARAM2 WIN 3" = 0.000 H1083 "PARAM3 WIN 3" = 0.000 H1084 "PARAM4 WIN 3" = 0.000 **H1062 "X0 WIN 4" = 448 **H1063 "Y0 WIN 4" = 0 **H1064 "XSIZE WIN 4" = 64 **H1065 "YSIZE WIN 4" = 1024 H1085 "MODE WIN 4" = 0 H1086 "PARAM1 WIN 4" = 0.000 H1087 "PARAM2 WIN 4" = 0.000 H1088 "PARAM3 WIN 4" = 0.000 H1089 "PARAM4 WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000 H1090 "MODE WIN 5" = 0 H1091 "PARAM1 WIN 5" = 0.000 H1092 "PARAM2 WIN 5" = 0.000 H1093 "PARAM3 WIN 5" = 0.000 H1094 "PARAM4 WIN 5" = 0.000	
5.12		Set Exposure Time in units of Frames to 20	**H7237** SET EXPOSE TIME **H0720 "NUMBER FRAMES" = 20	
5.13		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
5.14		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
5.15		Start the Choose Guide Star Task on the DPU. IC_CHOOSE_GS	**H7251** CHOOSE GUIDE STA	

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Step	Time	Activity/Remarks	Command	TM Verification
5.16	00:01:21	Wait up to Frame Time (<1s) + 80 seconds for the Choose Guide Star End of Task Alert. DA_EOT_CHOOSE_GS. Packet 92212 (PK Dump 1156 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =201 H7680 "TIMESTAMP" =
5.17		Stop Integration	**H6130** STOP DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = DISABLED
6		ACCUMULATE AND TRACK EXP 2		
6.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN
6.2		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
6.3		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
6.4		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
6.5		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
6.6		START EXPOSURE 2	**H7252** TRACK GUIDESTARS	
6.7	00:00:11	Wait up to 11s for complete exposure alert DA_COMPLETE_EXP. This alert signals the completion of the last frame of an exposure. It also indicates the full submission of the science data to the compression queue. Packet 92209 (PK Dump 1153 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =201 H7680 "TIMESTAMP" =
7		CHOOSE GUIDE STARS EXPOSURE 3		
7.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
7.2		Define the Detector Window parameters to be loaded. 4 128x128 Windows covering complete CCD	**H7110** LOAD WINDOW TAB **H0010 "VERIFICATION CTL" = ENABLED **H0040 "NO OF WINDOWS" = 4 **H0050 "XLOW WINDOW 1" = 52 **H0051 "YLOW WINDOW 1" = 27 **H0052 "XSIZE WINDOW 1" = 128 **H0053 "YSIZE WINDOW 1" = 128 **H0054 "XLOW WINDOW 2" = 52 **H0055 "YLOW WINDOW 2" = 155 **H0056 "XSIZE WINDOW 2" = 128 **H0057 "YSIZE WINDOW 2" = 128 **H0058 "XLOW WINDOW 3" = 180 **H0059 "YLOW WINDOW 3" = 27 **H0060 "XSIZE WINDOW 3" = 128 **H0061 "YSIZE WINDOW 3" = 128 **H0062 "XLOW WINDOW 4" = 180 **H0063 "YLOW WINDOW 4" = 155 **H0064 "XSIZE WINDOW 4" = 128 **H0065 "YSIZE WINDOW 4" = 128 H0066 "XLOW WINDOW 5" = 0.000 H0067 "YLOW WINDOW 5" = 0.000 H0068 "XSIZE WINDOW 5" = 0.000 H0069 "YSIZE WINDOW 5" = 0.000 H0070 "XLOW WINDOW 6" = 0.000 H0071 "YLOW WINDOW 6" = 0.000 H0072 "XSIZE WINDOW 6" = 0.000 H0073 "YSIZE WINDOW 6" = 0.000 H0074 "XLOW WINDOW 7" = 0.000 H0075 "YLOW WINDOW 7" = 0.000 H0076 "XSIZE WINDOW 7" = 0.000 H0077 "YSIZE WINDOW 7" = 0.000 H0078 "XLOW WINDOW 8" = 0.000 H0079 "YLOW WINDOW 8" = 0.000 H0080 "XSIZE WINDOW 8" = 0.000 H0081 "YSIZE WINDOW 8" = 0.000 H0082 "XLOW WINDOW 9" = 0.000 H0083 "YLOW WINDOW 9" = 0.000 H0084 "XSIZE WINDOW 9" = 0.000 H0085 "YSIZE WINDOW 9" = 0.000 H0086 "XLOW WINDOW 10" = 0.000 H0087 "YLOW WINDOW 10" = 0.000 H0088 "XSIZE WINDOW 10" = 0.000 H0089 "YSIZE WINDOW 10" = 0.000 H0090 "XLOW WINDOW 11" = 0.000 H0091 "YLOW WINDOW 11" = 0.000 H0092 "XSIZE WINDOW 11" = 0.000 H0093 "YSIZE WINDOW 11" = 0.000 H0094 "XLOW WINDOW 12" = 0.000 H0095 "YLOW WINDOW 12" = 0.000 H0096 "XSIZE WINDOW 12" = 0.000 H0097 "YSIZE WINDOW 12" = 0.000 H0098 "XLOW WINDOW 13" = 0.000 H0099 "YLOW WINDOW 13" = 0.000 H0100 "XSIZE WINDOW 13" = 0.000 H0101 "YSIZE WINDOW 13" = 0.000 H0102 "XLOW WINDOW 14" = 0.000 H0103 "YLOW WINDOW 14" = 0.000 H0104 "XSIZE WINDOW 14" = 0.000 H0105 "YSIZE WINDOW 14" = 0.000 H0106 "XLOW WINDOW 15" = 0.000 H0107 "YLOW WINDOW 15" = 0.000 H0108 "XSIZE WINDOW 15" = 0.000 H0109 "YSIZE WINDOW 15" = 0.000	
7.3		Load window defined in previous step. This TC starts the Load Window task.	**H5110** LOAD WINDOW TAB	

Procedure. Ref.: SVT_OPM_5504 (1,1) FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
7.4		Set Exposure ID.	**H7238** SET EXPOSURE ID **H0530 "EXPOSURE ID" = 202	
7.5		Initialise the Exposure by sending the IC_INIT_EXP task This command sets up the DPU to acquire detector data in 1kx1k format (I.e. detector binned by 2)	**H7249** INIT EXPOSURE	
7.6		Wait for 3 seconds for the EOT_INIT_EXP report. Packet 92213 (PK Dump 1158 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =202 H7680 "TIMESTAMP" =
7.7		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
7.8		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
7.9		Set the DPU Frame Time to 25.	**H7236** SET FRAME TIME **H0710 "NUM DPU CYCLES" = 25 msec	
7.10		Load Memory Window configuration. IC_LOAD_MEM_WINDOW	**H7242** LOAD MEM WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1159 "NMWIND" = 1 **H1050 "X0 WIN 1" = 0 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 1024 **H1053 "YSIZE WIN 1" = 1024 H1054 "X0 WIN 2" = 0.000 H1055 "Y0 WIN 2" = 0.000 H1056 "XSIZE WIN 2" = 0.000 H1057 "YSIZE WIN 2" = 0.000 H1058 "X0 WIN 3" = 0.000 H1059 "Y0 WIN 3" = 0.000 H1060 "XSIZE WIN 3" = 0.000 H1061 "YSIZE WIN 3" = 0.000 H1062 "X0 WIN 4" = 0.000 H1063 "Y0 WIN 4" = 0.000 H1064 "XSIZE WIN 4" = 0.000 H1065 "YSIZE WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000	

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
7.11		Load Science Window configuration. IC_LOAD_SCI_WINDOW	**H7243** LOAD SCI WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1161 "NSCIWIND" = 4 **H1050 "X0 WIN 1" = 512 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 64 **H1053 "YSIZE WIN 1" = 1024 **H1070 "MODE WIN 1" = IMAGE H1071 "PARAM1 WIN 1" = 0.000 H1072 "PARAM2 WIN 1" = 0.000 H1073 "PARAM3 WIN 1" = 0.000 H1074 "PARAM4 WIN 1" = 0.000 **H1054 "X0 WIN 2" = 576 **H1055 "Y0 WIN 2" = 0 **H1056 "XSIZE WIN 2" = 64 **H1057 "YSIZE WIN 2" = 1024 H1075 "MODE WIN 2" = 0.000 H1076 "PARAM1 WIN 2" = 0.000 H1077 "PARAM2 WIN 2" = 0.000 H1078 "PARAM3 WIN 2" = 0.000 H1079 "PARAM4 WIN 2" = 0.000 **H1058 "X0 WIN 3" = 640 **H1059 "Y0 WIN 3" = 0 **H1060 "XSIZE WIN 3" = 64 **H1061 "YSIZE WIN 3" = 1024 H1080 "MODE WIN 3" = 0 H1081 "PARAM1 WIN 3" = 0.000 H1082 "PARAM2 WIN 3" = 0.000 H1083 "PARAM3 WIN 3" = 0.000 H1084 "PARAM4 WIN 3" = 0.000 **H1062 "X0 WIN 4" = 704 **H1063 "Y0 WIN 4" = 0 **H1064 "XSIZE WIN 4" = 64 **H1065 "YSIZE WIN 4" = 1024 H1085 "MODE WIN 4" = 0 H1086 "PARAM1 WIN 4" = 0.000 H1087 "PARAM2 WIN 4" = 0.000 H1088 "PARAM3 WIN 4" = 0.000 H1089 "PARAM4 WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000 H1090 "MODE WIN 5" = 0 H1091 "PARAM1 WIN 5" = 0.000 H1092 "PARAM2 WIN 5" = 0.000 H1093 "PARAM3 WIN 5" = 0.000 H1094 "PARAM4 WIN 5" = 0.000	
7.12		Set Exposure Time in units of Frames to 20	**H7237** SET EXPOSE TIME **H0720 "NUMBER FRAMES" = 20	
7.13		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
7.14		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
7.15		Start the Choose Guide Star Task on the DPU. IC_CHOOSE_GS	**H7251** CHOOSE GUIDE STA	

Procedure. Ref.: SVT_OPM_5504 (1,1) FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
7.16	00:01:21	Wait up to Frame Time (<1s) + 80 seconds for the Choose Guide Star End of Task Alert. DA_EOT_CHOOSE_GS. Packet 92212 (PK Dump 1156 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =202 H7680 "TIMESTAMP" =
7.17		Stop Integration	**H6130** STOP DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = DISABLED
8		ACCUMULATE AND TRACK EXP 3		
8.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN
8.2		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
8.3		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
8.4		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
8.5		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
8.6		START EXPOSURE 3	**H7252** TRACK GUIDESTARS	
8.7	00:00:11	Wait up to 11s for complete exposure alert DA_COMPLETE_EXP. This alert signals the completion of the last frame of an exposure. It also indicates the full submission of the science data to the compression queue. Packet 92209 (PK Dump 1153 OM4)		***AND:*** ***AND: H910*** H7675 "EXPOSURE NUMBER" =202 H7680 "TIMESTAMP" =
9		CHOOSE GUIDE STARS EXPOSURE 4		
9.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
9.2		Define the Detector Window parameters to be loaded. 4 128x128 Windows covering complete CCD	**H7110** LOAD WINDOW TAB **H0010 "VERIFICATION CTL" = ENABLED **H0040 "NO OF WINDOWS" = 4 **H0050 "XLOW WINDOW 1" = 52 **H0051 "YLOW WINDOW 1" = 27 **H0052 "XSIZE WINDOW 1" = 128 **H0053 "YSIZE WINDOW 1" = 128 **H0054 "XLOW WINDOW 2" = 52 **H0055 "YLOW WINDOW 2" = 155 **H0056 "XSIZE WINDOW 2" = 128 **H0057 "YSIZE WINDOW 2" = 128 **H0058 "XLOW WINDOW 3" = 180 **H0059 "YLOW WINDOW 3" = 27 **H0060 "XSIZE WINDOW 3" = 128 **H0061 "YSIZE WINDOW 3" = 128 **H0062 "XLOW WINDOW 4" = 180 **H0063 "YLOW WINDOW 4" = 155 **H0064 "XSIZE WINDOW 4" = 128 **H0065 "YSIZE WINDOW 4" = 128 H0066 "XLOW WINDOW 5" = 0.000 H0067 "YLOW WINDOW 5" = 0.000 H0068 "XSIZE WINDOW 5" = 0.000 H0069 "YSIZE WINDOW 5" = 0.000 H0070 "XLOW WINDOW 6" = 0.000 H0071 "YLOW WINDOW 6" = 0.000 H0072 "XSIZE WINDOW 6" = 0.000 H0073 "YSIZE WINDOW 6" = 0.000 H0074 "XLOW WINDOW 7" = 0.000 H0075 "YLOW WINDOW 7" = 0.000 H0076 "XSIZE WINDOW 7" = 0.000 H0077 "YSIZE WINDOW 7" = 0.000 H0078 "XLOW WINDOW 8" = 0.000 H0079 "YLOW WINDOW 8" = 0.000 H0080 "XSIZE WINDOW 8" = 0.000 H0081 "YSIZE WINDOW 8" = 0.000 H0082 "XLOW WINDOW 9" = 0.000 H0083 "YLOW WINDOW 9" = 0.000 H0084 "XSIZE WINDOW 9" = 0.000 H0085 "YSIZE WINDOW 9" = 0.000 H0086 "XLOW WINDOW 10" = 0.000 H0087 "YLOW WINDOW 10" = 0.000 H0088 "XSIZE WINDOW 10" = 0.000 H0089 "YSIZE WINDOW 10" = 0.000 H0090 "XLOW WINDOW 11" = 0.000 H0091 "YLOW WINDOW 11" = 0.000 H0092 "XSIZE WINDOW 11" = 0.000 H0093 "YSIZE WINDOW 11" = 0.000 H0094 "XLOW WINDOW 12" = 0.000 H0095 "YLOW WINDOW 12" = 0.000 H0096 "XSIZE WINDOW 12" = 0.000 H0097 "YSIZE WINDOW 12" = 0.000 H0098 "XLOW WINDOW 13" = 0.000 H0099 "YLOW WINDOW 13" = 0.000 H0100 "XSIZE WINDOW 13" = 0.000 H0101 "YSIZE WINDOW 13" = 0.000 H0102 "XLOW WINDOW 14" = 0.000 H0103 "YLOW WINDOW 14" = 0.000 H0104 "XSIZE WINDOW 14" = 0.000 H0105 "YSIZE WINDOW 14" = 0.000 H0106 "XLOW WINDOW 15" = 0.000 H0107 "YLOW WINDOW 15" = 0.000 H0108 "XSIZE WINDOW 15" = 0.000 H0109 "YSIZE WINDOW 15" = 0.000	
9.3		Load window defined in previous step. This TC starts the Load Window task.	**H5110** LOAD WINDOW TAB	

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
9.4		Set Exposure ID.	**H7238** SET EXPOSURE ID **H0530 "EXPOSURE ID" = 203	
9.5		Initialise the Exposure by sending the IC_INIT_EXP task This command sets up the DPU to acquire detector data in 1kx1k format (I.e. detector binned by 2)	**H7249** INIT EXPOSURE	
9.6		Wait for 3 seconds for the EOT_INIT_EXP report. Packet 92213 (PK Dump 1158 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =203 H7680 "TIMESTAMP" =
9.7		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
9.8		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
9.9		Set the DPU Frame Time to 25.	**H7236** SET FRAME TIME **H0710 "NUM DPU CYCLES" = 25 msec	
9.10		Load Memory Window configuration. IC_LOAD_MEM_WINDOW	**H7242** LOAD MEM WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1159 "NMWIND" = 1 **H1050 "X0 WIN 1" = 0 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 1024 **H1053 "YSIZE WIN 1" = 1024 H1054 "X0 WIN 2" = 0.000 H1055 "Y0 WIN 2" = 0.000 H1056 "XSIZE WIN 2" = 0.000 H1057 "YSIZE WIN 2" = 0.000 H1058 "X0 WIN 3" = 0.000 H1059 "Y0 WIN 3" = 0.000 H1060 "XSIZE WIN 3" = 0.000 H1061 "YSIZE WIN 3" = 0.000 H1062 "X0 WIN 4" = 0.000 H1063 "Y0 WIN 4" = 0.000 H1064 "XSIZE WIN 4" = 0.000 H1065 "YSIZE WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000	

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
9.11		Load Science Window configuration. IC_LOAD_SCI_WINDOW	**H7243** LOAD SCI WINDOW H1162 "NUM WORD PARAMS" = 0.000 **H1161 "NSCIWIND" = 4 **H1050 "X0 WIN 1" = 768 **H1051 "Y0 WIN 1" = 0 **H1052 "XSIZE WIN 1" = 64 **H1053 "YSIZE WIN 1" = 1024 **H1070 "MODE WIN 1" = IMAGE H1071 "PARAM1 WIN 1" = 0.000 H1072 "PARAM2 WIN 1" = 0.000 H1073 "PARAM3 WIN 1" = 0.000 H1074 "PARAM4 WIN 1" = 0.000 **H1054 "X0 WIN 2" = 832 **H1055 "Y0 WIN 2" = 0 **H1056 "XSIZE WIN 2" = 64 **H1057 "YSIZE WIN 2" = 1024 H1075 "MODE WIN 2" = 0.000 H1076 "PARAM1 WIN 2" = 0.000 H1077 "PARAM2 WIN 2" = 0.000 H1078 "PARAM3 WIN 2" = 0.000 H1079 "PARAM4 WIN 2" = 0.000 **H1058 "X0 WIN 3" = 896 **H1059 "Y0 WIN 3" = 0 **H1060 "XSIZE WIN 3" = 64 **H1061 "YSIZE WIN 3" = 1024 H1080 "MODE WIN 3" = 0 H1081 "PARAM1 WIN 3" = 0.000 H1082 "PARAM2 WIN 3" = 0.000 H1083 "PARAM3 WIN 3" = 0.000 H1084 "PARAM4 WIN 3" = 0.000 **H1062 "X0 WIN 4" = 960 **H1063 "Y0 WIN 4" = 0 **H1064 "XSIZE WIN 4" = 64 **H1065 "YSIZE WIN 4" = 1024 H1085 "MODE WIN 4" = 0 H1086 "PARAM1 WIN 4" = 0.000 H1087 "PARAM2 WIN 4" = 0.000 H1088 "PARAM3 WIN 4" = 0.000 H1089 "PARAM4 WIN 4" = 0.000 H1066 "X0 WIN 5" = 0.000 H1067 "Y0 WIN 5" = 0.000 H1068 "XSIZE WIN 5" = 0.000 H1069 "YSIZE WIN 5" = 0.000 H1090 "MODE WIN 5" = 0 H1091 "PARAM1 WIN 5" = 0.000 H1092 "PARAM2 WIN 5" = 0.000 H1093 "PARAM3 WIN 5" = 0.000 H1094 "PARAM4 WIN 5" = 0.000	
9.12		Set Exposure Time in units of Frames to 20	**H7237** SET EXPOSE TIME **H0720 "NUMBER FRAMES" = 20	
9.13		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
9.14		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
9.15		Start the Choose Guide Star Task on the DPU. IC_CHOOSE_GS	**H7251** CHOOSE GUIDE STA	

Procedure. Ref.: SVT_OPM_5504 (1,1) FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
9.16	00:01:21	Wait up to Frame Time (<1s) + 80 seconds for the Choose Guide Star End of Task Alert. DA_EOT_CHOOSE_GS. Packet 92212 (PK Dump 1156 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =203 H7680 "TIMESTAMP" =
9.17		Stop Integration	**H6130** STOP DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = DISABLED
10		ACCUMULATE AND TRACK EXP 4		
10.1		Set Detector Acquisition Mode to High Resolution windowed	**H7130** LOAD ACQ MODE **H0110 "ACQ MODE" = HI RES WIN	***AND: H110*** H5215 "ACQUISITION MODE" = HI RES WIN
10.2		Set BPE Binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = BINNING	
10.3		Confirm Frame Tags are enabled. Enables the Detector Integration Frame Tag (2 words of all zeroes) transmitted at the start of each frame.	**H7135** SET FRAME TAG **H0016 "ENABLE CNTL" = ENABLED	***AND: H110*** H5220 "FRAME TAG CNTL" = ENABLED
10.4		Set the Detector Threshold for single events.	**H7131** SET EVT THRESH **H0120 "THRESHOLD" = 15	***AND: H110*** H5235 "EVT DET THRESH" = 15
10.5		Start sending events from MIC (Micro Channel Plate Intensified CCD). When the integration is enabled data is sent on to the DPU at the start of the next frame.	**H5130** START DET INT	***AND: H110*** H5210 "INTEGRATION TOG" = ENABLED
10.6		START EXPOSURE 4	**H7252** TRACK GUIDESTARS	
10.7	00:00:11	Wait up to 11s for complete exposure alert DA_COMPLETE_EXP. This alert signals the completion of the last frame of an exposure. It also indicates the full submission of the science data to the compression queue. Packet 92209 (PK Dump 1153 OM4)		***AND: H910*** H7675 "EXPOSURE NUMBER" =203 H7680 "TIMESTAMP" =
11		RECONFIGURE FROM FLATFIELD		
11.1		Turn ON Tracking	**H7256** SET TRACKING **H1040 "TRACKING CTL" = ON	***AND: H110*** H5365 "TRACKING" = ON
11.2		Set BPE binning	**H7257** BPE BINNING **H0540 "BINNING FACTOR" = NO BINNING	

Procedure. Ref.: **SVT_OPM_5504 (1,1)** FLATFIELD

Step	Time	Activity/Remarks	Command	TM Verification
11.3		Change Mode to ICU Mode 2 - IDLE Mode.	**H9002** GOTO IDLE	***AND: H100*** H5395 "OM STATE" = IDLE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
11.4		Change Mode to ICU Mode 4 - ENGINEERING Mode.	**H9004** GOTO ENG	***AND: H100*** H5395 "OM STATE" = ENGINEERING H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
11.5		Turn OFF the flood LEDs.	**H7134** SET FLOOD LED H0140 "LED CURRENT" = 0.000 UAMP	***AND: H110*** H5195 "FLOOD LED BIAS" = 0.0
11.6		Change Mode to ICU Mode 2 - IDLE Mode.	**H9002** GOTO IDLE	***AND: H100*** H5395 "OM STATE" = IDLE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
11.7		Change Mode to ICU Mode 3 - SCIENCE Mode.	**H9003** GOTO SCIENCE	***AND: H100*** H5395 "OM STATE" = SCIENCE H5405 "ICU STATE" = OPERATIONAL H5450 "DPU STATE" = DPUOS
12		END OF PROCEDURE		