

CCD Commander Log File  
Software v1.3.12  
This copy is registered to:  
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22:50:13 Action starting.  
22:50:13 Connecting to the Camera...  
22:50:13 Connecting to the Mount...  
22:50:14 Connecting to FocusMax...  
22:50:14 Turning on Fan.  
22:50:14 Turning on cooler.  
22:50:14 Setting cooler = -20  
22:50:14 Simple Temperature Control complete.  
22:50:14 Running ngc4565\_red\_30m.act  
22:50:14 Starting move to action.  
22:50:14 Precessing cooridnates.  
22:50:14 J2000 Coordinates: RA: 12h 31m 01.0s Dec: +24°34'02"  
22:50:14 JNow Coordinates: RA: 12h 31m 19.4s Dec: +24°32'60"  
22:50:14 Slewing to SAO 82346...  
22:50:22 Done slewing!  
22:50:22 Starting post slew delay.  
22:50:25 Completed post slew delay.  
22:50:25 Setting imager bin mode to 2x2.  
22:50:25 Setting filter to Luminance.  
22:50:32 Taking 5 second image for Plate Solve...  
22:50:41 Saving Image...  
22:50:41 Performing Plate Solve with CCDSoft...  
22:50:42 Plate solve results:  
22:50:42 Pixel Scale = 1.86 asp.  
22:50:42 North Angle = 18.29 degrees.  
22:50:42 J2000 Coordinates = RA: 12h 31m 00.6s Dec: +24°34'39"  
22:50:42 Syncing to RA 12.52194, Dec 24.54362  
22:50:52 Starting focus run...  
22:52:39 Focus succeeded! HFD = 3.62  
22:52:39 Starting move to action.  
22:52:39 Precessing cooridnates.  
22:52:39 J2000 Coordinates: RA: 12h 36m 20.0s Dec: +25°59'16"  
22:52:39 JNow Coordinates: RA: 12h 36m 38.3s Dec: +25°57'14"  
22:52:39 Slewing to ngc4565...  
22:52:49 Done slewing!  
22:52:49 Starting post slew delay.  
22:52:52 Completed post slew delay.  
22:52:52 Setting imager bin mode to 2x2.  
22:52:52 Setting filter to Luminance.  
22:52:59 Taking 5 second image for Plate Solve...  
22:53:16 Saving Image...  
22:53:16 Performing Plate Solve with CCDSoft...  
22:53:17 Plate solve results:  
22:53:17 Pixel Scale = 1.86 asp.  
22:53:17 North Angle = 18.24 degrees.  
22:53:17 J2000 Coordinates = RA: 12h 36m 19.2s Dec: +25°59'03"  
22:53:17 Syncing to RA 12.61041, Dec 25.95029  
22:53:24 Setting image type to Light.  
22:53:24 Setting imager bin mode to 2x2.  
22:53:24 Setting filter to Red.  
22:53:27 Setting imager to full frame.  
22:53:27 Setting imager exposure time to 300 seconds.  
22:53:28 Setting autoguider bin mode to 2x2.  
22:53:28 Taking a 3 second autoguider exposure.  
22:53:38 Beginning guide star search...  
22:53:39 Found possible guide star at 186, 193 with a max brightness of 2821 ADU.  
22:53:39 Taking a 3 second autoguider exposure.  
22:53:46 Beginning guide star search...  
22:53:47 Taking a 3.45 second autoguider exposure.  
22:53:59 Beginning guide star search...  
22:54:00 Found possible guide star at 186, 193 with a max brightness of 3068 ADU.  
22:54:00 Taking a 3.45 second autoguider exposure.

22:54:06 Beginning guide star search...  
22:54:07 Found appropriate guide star at 186, 192 with a max brightness of 3608  
ADU.  
22:54:07 Trying to autoguide on star at 186.0,192.0.  
22:54:07 Starting to autoguide.  
22:54:21 Checking autoguider max error...  
22:54:22 Autoguider error: X=0.08 Y=-0.15  
22:54:22 Autoguider max error < 0.4!  
22:54:22 Stopping autoguider...  
22:54:24 Automatic guide star acquisition successful!  
22:54:24 Setting autoguider exposure time to 3.45 seconds.  
22:54:24 Setting guide star position to 186.0,192.0.  
22:54:24 Starting to autoguide.  
22:54:38 Checking autoguider max error...  
22:54:43 Autoguider error: X=0.11 Y=-0.62  
22:54:43 Checking autoguider max error...  
22:54:47 Autoguider error: X=0.40 Y=-0.76  
22:54:47 Checking autoguider max error...  
22:54:52 Autoguider error: X=0.49 Y=-1.12  
22:54:52 Checking autoguider max error...  
22:54:57 Autoguider error: X=0.62 Y=-1.12  
22:54:57 Checking autoguider max error...  
22:55:02 Autoguider error: X=0.32 Y=-1.50  
22:55:02 Checking autoguider max error...  
22:55:06 Autoguider error: X=0.52 Y=-1.49  
22:55:06 Checking autoguider max error...  
22:55:11 Autoguider error: X=0.35 Y=-1.62  
22:55:11 Checking autoguider max error...  
22:55:16 Autoguider error: X=0.61 Y=-1.15  
22:55:16 Checking autoguider max error...  
22:55:21 Autoguider error: X=-0.21 Y=-0.92  
22:55:21 Checking autoguider max error...  
22:55:25 Autoguider error: X=0.30 Y=-0.19  
22:55:25 Autoguider max error < 0.4!  
22:55:25 Starting imager exposure (1 of 6).  
23:00:30 Imager exposure complete.  
23:00:30 Stopping autoguider...  
23:00:32 Setting autoguider exposure time to 3.45 seconds.  
23:00:32 Setting guide star position to 188.0,192.0.  
23:00:32 Starting to autoguide.  
23:00:46 Checking autoguider max error...  
23:00:47 Autoguider error: X=-1.36 Y=0.18  
23:00:47 Checking autoguider max error...  
23:00:51 Autoguider error: X=0.19 Y=0.33  
23:00:51 Autoguider max error < 0.4!  
23:00:51 Starting imager exposure (2 of 6).  
23:05:56 Imager exposure complete.  
23:05:56 Stopping autoguider...  
23:05:58 Setting autoguider exposure time to 3.45 seconds.  
23:05:58 Setting guide star position to 188.0,194.0.  
23:05:58 Starting to autoguide.  
23:06:12 Checking autoguider max error...  
23:06:13 Autoguider error: X=-0.38 Y=-0.14  
23:06:13 Autoguider max error < 0.4!  
23:06:13 Starting imager exposure (3 of 6).  
23:11:17 Imager exposure complete.  
23:11:17 Stopping autoguider...  
23:11:19 Setting autoguider exposure time to 3.45 seconds.  
23:11:19 Setting guide star position to 186.0,194.0.  
23:11:19 Starting to autoguide.  
23:11:33 Checking autoguider max error...  
23:11:34 Autoguider error: X=0.14 Y=-0.65  
23:11:34 Checking autoguider max error...  
23:11:39 Autoguider error: X=-0.53 Y=0.28  
23:11:39 Checking autoguider max error...  
23:11:43 Autoguider error: X=-0.19 Y=0.01  
23:11:43 Autoguider max error < 0.4!  
23:11:43 Starting imager exposure (4 of 6).

23:16:48 Imager exposure complete.  
23:16:48 Stopping autoguider...  
23:16:50 Setting autoguider exposure time to 3.45 seconds.  
23:16:50 Setting guide star position to 184.0,194.0.  
23:16:50 Starting to autoguide.  
23:17:04 Checking autoguider max error...  
23:17:05 Autoguider error: X=0.99 Y=0.28  
23:17:05 Checking autoguider max error...  
23:17:09 Autoguider error: X=0.39 Y=-0.17  
23:17:09 Autoguider max error < 0.4!  
23:17:09 Starting imager exposure (5 of 6).  
23:22:14 Imager exposure complete.  
23:22:14 Stopping autoguider...  
23:22:16 Setting autoguider exposure time to 3.45 seconds.  
23:22:16 Setting guide star position to 184.0,192.0.  
23:22:16 Starting to autoguide.  
23:22:30 Checking autoguider max error...  
23:22:31 Autoguider error: X=0.32 Y=1.35  
23:22:31 Checking autoguider max error...  
23:22:36 Autoguider error: X=-0.60 Y=0.83  
23:22:36 Checking autoguider max error...  
23:22:41 Autoguider error: X=0.06 Y=1.00  
23:22:41 Checking autoguider max error...  
23:22:45 Autoguider error: X=-0.14 Y=0.85  
23:22:45 Checking autoguider max error...  
23:22:50 Autoguider error: X=0.24 Y=0.76  
23:22:50 Checking autoguider max error...  
23:22:55 Autoguider error: X=-0.28 Y=0.49  
23:22:55 Checking autoguider max error...  
23:22:59 Autoguider error: X=0.03 Y=0.37  
23:22:59 Autoguider max error < 0.4!  
23:22:59 Starting imager exposure (6 of 6).  
23:28:04 Imager exposure complete.  
23:28:04 Stopping autoguider...  
23:28:06 Take Images Action complete.  
23:28:06 Done running ngc4565\_red\_30m.act  
23:28:06 Running ngc4565\_grn\_30m.act  
23:28:06 Starting move to action.  
23:28:06 Precessing coordnates.  
23:28:06 J2000 Coordinates: RA: 12h 31m 01.0s Dec: +24°34'02"  
23:28:06 JNow Coordinates: RA: 12h 31m 19.4s Dec: +24°32'60"  
23:28:06 Slewing to SAO 82346...  
23:28:15 Done slewing!  
23:28:15 Starting post slew delay.  
23:28:18 Completed post slew delay.  
23:28:18 Setting imager bin mode to 2x2.  
23:28:18 Setting filter to Luminance.  
23:28:24 Taking 5 second image for Plate Solve...  
23:28:34 Saving Image...  
23:28:34 Performing Plate Solve with CCDSoft...  
23:28:35 Plate solve results:  
23:28:35 Pixel Scale = 1.86 asp.  
23:28:35 North Angle = 18.31 degrees.  
23:28:35 J2000 Coordinates = RA: 12h 31m 03.1s Dec: +24°36'01"  
23:28:35 Syncing to RA 12.52264, Dec 24.56630  
23:28:44 Starting focus run...  
23:30:35 Focus succeeded! HFD = 3.09  
23:30:35 Starting move to action.  
23:30:35 Precessing coordnates.  
23:30:35 J2000 Coordinates: RA: 12h 36m 20.0s Dec: +25°59'16"  
23:30:35 JNow Coordinates: RA: 12h 36m 38.3s Dec: +25°57'14"  
23:30:35 Slewing to ngc4565...  
23:30:44 Done slewing!  
23:30:44 Starting post slew delay.  
23:30:47 Completed post slew delay.  
23:30:48 Setting imager bin mode to 2x2.  
23:30:48 Setting filter to Luminance.  
23:30:54 Taking 5 second image for Plate Solve...

23:31:11 Saving Image...  
23:31:12 Performing Plate Solve with CCDSoft...  
23:31:13 Plate solve results:  
23:31:13 Pixel Scale = 1.85 asp.  
23:31:13 North Angle = 18.28 degrees.  
23:31:13 J2000 Coordinates = RA: 12h 36m 19.4s Dec: +25°59'09"  
23:31:13 Syncing to RA 12.61047, Dec 25.95186  
23:31:18 Setting image type to Light.  
23:31:18 Setting imager bin mode to 2x2.  
23:31:18 Setting filter to Green.  
23:31:21 Setting imager to full frame.  
23:31:21 Setting imager exposure time to 300 seconds.  
23:31:23 Setting autoguider bin mode to 2x2.  
23:31:23 Taking a 3 second autoguider exposure.  
23:31:33 Beginning guide star search...  
23:31:34 Found possible guide star at 186, 194 with a max brightness of 3340 ADU.  
23:31:34 Taking a 3 second autoguider exposure.  
23:31:40 Beginning guide star search...  
23:31:42 Found appropriate guide star at 186, 194 with a max brightness of 2869 ADU.  
23:31:42 Trying to autoguide on star at 186.0,194.0.  
23:31:42 Starting to autoguide.  
23:31:54 Checking autoguider max error...  
23:31:54 Autoguider error: X=-0.34 Y=-1.00  
23:31:54 Checking autoguider max error...  
23:31:58 Autoguider error: X=0.55 Y=-0.88  
23:31:58 Checking autoguider max error...  
23:32:02 Autoguider error: X=0.24 Y=-1.20  
23:32:02 Checking autoguider max error...  
23:32:06 Autoguider error: X=0.97 Y=-1.14  
23:32:06 Checking autoguider max error...  
23:32:10 Autoguider error: X=0.21 Y=-1.47  
23:32:10 Checking autoguider max error...  
23:32:15 Autoguider error: X=0.91 Y=-1.61  
23:32:15 Checking autoguider max error...  
23:32:19 Autoguider error: X=0.37 Y=-1.99  
23:32:19 Checking autoguider max error...  
23:32:23 Autoguider error: X=0.35 Y=-1.35  
23:32:23 Checking autoguider max error...  
23:32:27 Autoguider error: X=0.16 Y=-0.84  
23:32:27 Checking autoguider max error...  
23:32:31 Autoguider error: X=-0.13 Y=-0.35  
23:32:31 Autoguider max error < 0.4!  
23:32:31 Stopping autoguider...  
23:32:33 Automatic guide star acquisition successful!  
23:32:33 Setting autoguider exposure time to 3 seconds.  
23:32:33 Setting guide star position to 186.0,194.0.  
23:32:33 Starting to autoguide.  
23:32:45 Checking autoguider max error...  
23:32:46 Autoguider error: X=0.19 Y=-0.19  
23:32:46 Autoguider max error < 0.4!  
23:32:46 Starting imager exposure (1 of 6).  
23:37:51 Imager exposure complete.  
23:37:51 Stopping autoguider...  
23:37:53 Setting autoguider exposure time to 3 seconds.  
23:37:53 Setting guide star position to 188.0,194.0.  
23:37:53 Starting to autoguide.  
23:38:05 Checking autoguider max error...  
23:38:06 Autoguider error: X=-0.32 Y=-0.33  
23:38:06 Autoguider max error < 0.4!  
23:38:06 Starting imager exposure (2 of 6).  
23:43:10 Imager exposure complete.  
23:43:10 Stopping autoguider...  
23:43:12 Setting autoguider exposure time to 3 seconds.  
23:43:12 Setting guide star position to 188.0,196.0.  
23:43:12 Starting to autoguide.  
23:43:24 Checking autoguider max error...  
23:43:25 Autoguider error: X=0.08 Y=0.06

23:43:25 Autoguider max error < 0.4!  
23:43:25 Starting imager exposure (3 of 6).  
23:48:29 Imager exposure complete.  
23:48:29 Stopping autoguider...  
23:48:32 Setting autoguider exposure time to 3 seconds.  
23:48:32 Setting guide star position to 186.0,196.0.  
23:48:32 Starting to autoguide.  
23:48:44 Checking autoguider max error...  
23:48:44 Autoguider error: X=0.37 Y=0.39  
23:48:44 Autoguider max error < 0.4!  
23:48:44 Starting imager exposure (4 of 6).  
23:53:49 Imager exposure complete.  
23:53:49 Stopping autoguider...  
23:53:51 Setting autoguider exposure time to 3 seconds.  
23:53:51 Setting guide star position to 184.0,196.0.  
23:53:51 Starting to autoguide.  
23:54:03 Checking autoguider max error...  
23:54:04 Autoguider error: X=0.01 Y=0.06  
23:54:04 Autoguider max error < 0.4!  
23:54:04 Starting imager exposure (5 of 6).  
23:59:09 Imager exposure complete.  
23:59:09 Stopping autoguider...  
23:59:11 Setting autoguider exposure time to 3 seconds.  
23:59:11 Setting guide star position to 184.0,194.0.  
23:59:11 Starting to autoguide.  
23:59:23 Checking autoguider max error...  
23:59:24 Autoguider error: X=-0.65 Y=1.01  
23:59:24 Checking autoguider max error...  
23:59:28 Autoguider error: X=-0.83 Y=0.77  
23:59:28 Checking autoguider max error...  
23:59:32 Autoguider error: X=-0.40 Y=0.80  
23:59:32 Checking autoguider max error...  
23:59:36 Autoguider error: X=-0.54 Y=0.70  
23:59:36 Checking autoguider max error...  
23:59:40 Autoguider error: X=-0.60 Y=0.35  
23:59:40 Checking autoguider max error...  
23:59:44 Autoguider error: X=-0.61 Y=0.39  
23:59:44 Checking autoguider max error...  
23:59:48 Autoguider error: X=-0.56 Y=0.15  
23:59:48 Checking autoguider max error...  
23:59:52 Autoguider error: X=-0.22 Y=0.15  
23:59:52 Autoguider max error < 0.4!  
23:59:52 Starting imager exposure (6 of 6).  
00:04:56 Imager exposure complete.  
00:04:56 Stopping autoguider...  
00:04:58 Take Images Action complete.  
00:04:58 Done running ngc4565\_grn\_30m.act  
00:04:58 Running ngc4565\_blu\_30m.act  
00:04:58 Starting move to action.  
00:04:58 Precessing cooridnates.  
00:04:58 J2000 Coordinates: RA: 12h 31m 01.0s Dec: +24°34'02"  
00:04:58 JNow Coordinates: RA: 12h 31m 19.4s Dec: +24°32'60"  
00:04:58 Slewing to SAO 82346...  
00:05:07 Done slewing!  
00:05:07 Starting post slew delay.  
00:05:10 Completed post slew delay.  
00:05:10 Setting imager bin mode to 2x2.  
00:05:10 Setting filter to Luminance.  
00:05:16 Taking 5 second image for Plate Solve...  
00:05:25 Saving Image...  
00:05:25 Performing Plate Solve with CCDSoft...  
00:05:27 Plate solve results:  
00:05:27 Pixel Scale = 1.86 asp.  
00:05:27 North Angle = 18.29 degrees.  
00:05:27 J2000 Coordinates = RA: 12h 31m 02.4s Dec: +24°36'09"  
00:05:27 Syncing to RA 12.52245, Dec 24.56855  
00:05:36 Starting focus run...  
00:07:19 Focus succeeded! HFD = 2.88

00:07:19 Starting move to action.  
00:07:19 Precessing coordinatnes.  
00:07:19 J2000 Coordinates: RA: 12h 36m 20.0s Dec: +25°59'16"  
00:07:19 JNow Coordinates: RA: 12h 36m 38.3s Dec: +25°57'14"  
00:07:19 Slewing to ngc4565...  
00:07:28 Done slewing!  
00:07:28 Starting post slew delay.  
00:07:31 Completed post slew delay.  
00:07:31 Setting imager bin mode to 2x2.  
00:07:31 Setting filter to Luminance.  
00:07:37 Taking 5 second image for Plate Solve...  
00:07:54 Saving Image...  
00:07:55 Performing Plate Solve with CCDSoft...  
00:07:56 Plate solve results:  
00:07:56 Pixel Scale = 1.86 asp.  
00:07:56 North Angle = 18.31 degrees.  
00:07:56 J2000 Coordinates = RA: 12h 36m 19.8s Dec: +25°59'03"  
00:07:56 Syncing to RA 12.61059, Dec 25.95027  
00:08:01 Setting image type to Light.  
00:08:01 Setting imager bin mode to 2x2.  
00:08:01 Setting filter to Blue.  
00:08:05 Setting imager to full frame.  
00:08:05 Setting imager exposure time to 300 seconds.  
00:08:06 Setting autoguider bin mode to 2x2.  
00:08:06 Taking a 3 second autoguider exposure.  
00:08:16 Beginning guide star search...  
00:08:18 Taking a 5.94 second autoguider exposure.  
00:08:34 Beginning guide star search...  
00:08:36 Found possible guide star at 181, 192 with a max brightness of 3864 ADU.  
00:08:36 Taking a 5.94 second autoguider exposure.  
00:08:45 Beginning guide star search...  
00:08:46 Found appropriate guide star at 180, 191 with a max brightness of 3631 ADU.  
00:08:46 Trying to autoguide on star at 180.0,191.0.  
00:08:46 Starting to autoguide.  
00:09:10 Checking autoguider max error...  
00:09:15 Autoguider error: X=-0.57 Y=-0.79  
00:09:15 Checking autoguider max error...  
00:09:22 Autoguider error: X=-0.61 Y=-1.09  
00:09:22 Checking autoguider max error...  
00:09:29 Autoguider error: X=-0.33 Y=-1.24  
00:09:29 Checking autoguider max error...  
00:09:36 Autoguider error: X=-0.10 Y=-1.44  
00:09:36 Checking autoguider max error...  
00:09:44 Autoguider error: X=0.28 Y=-1.71  
00:09:44 Checking autoguider max error...  
00:09:51 Autoguider error: X=0.35 Y=-1.83  
00:09:51 Checking autoguider max error...  
00:09:58 Autoguider error: X=0.53 Y=-2.08  
00:09:58 Checking autoguider max error...  
00:10:06 Autoguider error: X=0.58 Y=-2.24  
00:10:06 Checking autoguider max error...  
00:10:13 Autoguider error: X=-0.12 Y=-1.89  
00:10:13 Checking autoguider max error...  
00:10:21 Autoguider error: X=-0.36 Y=-0.53  
00:10:21 Checking autoguider max error...  
00:10:28 Autoguider error: X=0.11 Y=-0.25  
00:10:28 Autoguider max error < 0.4!  
00:10:28 Stopping autoguider...  
00:10:30 Automatic guide star acquisition successful!  
00:10:30 Setting autoguider exposure time to 5.94 seconds.  
00:10:30 Setting guide star position to 180.0,191.0.  
00:10:30 Starting to autoguide.  
00:10:53 Checking autoguider max error...  
00:10:59 Autoguider error: X=-0.24 Y=-0.21  
00:10:59 Autoguider max error < 0.4!  
00:10:59 Starting imager exposure (1 of 6).  
00:16:04 Imager exposure complete.

00:16:04 Stopping autoguider...  
00:16:06 Setting autoguider exposure time to 5.94 seconds.  
00:16:06 Setting guide star position to 182.0,191.0.  
00:16:06 Starting to autoguide.  
00:16:30 Checking autoguider max error...  
00:16:35 Autoguider error: X=-0.40 Y=-0.09  
00:16:35 Checking autoguider max error...  
00:16:42 Autoguider error: X=-0.18 Y=-0.32  
00:16:42 Autoguider max error < 0.4!  
00:16:42 Starting imager exposure (2 of 6).  
00:21:47 Imager exposure complete.  
00:21:47 Stopping autoguider...  
00:21:49 Setting autoguider exposure time to 5.94 seconds.  
00:21:49 Setting guide star position to 182.0,193.0.  
00:21:49 Starting to autoguide.  
00:22:13 Checking autoguider max error...  
00:22:18 Autoguider error: X=-0.32 Y=0.04  
00:22:18 Autoguider max error < 0.4!  
00:22:18 Starting imager exposure (3 of 6).  
00:27:22 Imager exposure complete.  
00:27:22 Stopping autoguider...  
00:27:24 Setting autoguider exposure time to 5.94 seconds.  
00:27:24 Setting guide star position to 180.0,193.0.  
00:27:24 Starting to autoguide.  
00:27:48 Checking autoguider max error...  
00:27:53 Autoguider error: X=-0.12 Y=-0.25  
00:27:53 Autoguider max error < 0.4!  
00:27:53 Starting imager exposure (4 of 6).  
00:32:57 Imager exposure complete.  
00:32:57 Stopping autoguider...  
00:32:59 Setting autoguider exposure time to 5.94 seconds.  
00:32:59 Setting guide star position to 178.0,193.0.  
00:32:59 Starting to autoguide.  
00:33:23 Checking autoguider max error...  
00:33:28 Autoguider error: X=-0.87 Y=-0.60  
00:33:28 Checking autoguider max error...  
00:33:35 Autoguider error: X=-0.06 Y=-0.21  
00:33:35 Autoguider max error < 0.4!  
00:33:35 Starting imager exposure (5 of 6).  
00:38:41 Imager exposure complete.  
00:38:41 Stopping autoguider...  
00:38:43 Setting autoguider exposure time to 5.94 seconds.  
00:38:43 Setting guide star position to 178.0,191.0.  
00:38:43 Starting to autoguide.  
00:39:07 Checking autoguider max error...  
00:39:12 Autoguider error: X=-0.27 Y=0.60  
00:39:12 Checking autoguider max error...  
00:39:19 Autoguider error: X=0.09 Y=0.50  
00:39:19 Checking autoguider max error...  
00:39:26 Autoguider error: X=0.12 Y=0.32  
00:39:26 Autoguider max error < 0.4!  
00:39:26 Starting imager exposure (6 of 6).  
00:44:31 Imager exposure complete.  
00:44:31 Stopping autoguider...  
00:44:33 Take Images Action complete.  
00:44:33 Done running ngc4565\_blu\_30m.act  
00:44:33 Running ngc4565\_lum\_30m.act  
00:44:33 Running Action List Iteration #1  
00:44:33 Starting move to action.  
00:44:33 Precessing cooridnates.  
00:44:33 J2000 Coordinates: RA: 12h 31m 01.0s Dec: +24°34'02"  
00:44:33 JNow Coordinates: RA: 12h 31m 19.4s Dec: +24°32'60"  
00:44:33 Slewing to SAO 82346...  
00:44:41 Done slewing!  
00:44:41 Starting post slew delay.  
00:44:45 Completed post slew delay.  
00:44:45 Setting imager bin mode to 2x2.  
00:44:45 Setting filter to Luminance.

00:44:50 Taking 5 second image for Plate Solve...  
00:45:00 Saving Image...  
00:45:00 Performing Plate Solve with CCDSoft...  
00:45:01 Plate solve results:  
00:45:01 Pixel Scale = 1.86 asp.  
00:45:01 North Angle = 18.34 degrees.  
00:45:01 J2000 Coordinates = RA: 12h 31m 01.8s Dec: +24°36'28"  
00:45:01 Syncing to RA 12.52227, Dec 24.57371  
00:45:08 Starting focus run...  
00:46:57 Focus succeeded! HFD = 3.09  
00:46:57 Starting move to action.  
00:46:57 Preprocessing coordinates.  
00:46:57 J2000 Coordinates: RA: 12h 36m 20.0s Dec: +25°59'16"  
00:46:57 JNow Coordinates: RA: 12h 36m 38.3s Dec: +25°57'14"  
00:46:57 Slewing to ngc4565...  
00:47:07 Done slewing!  
00:47:07 Starting post slew delay.  
00:47:10 Completed post slew delay.  
00:47:10 Setting imager bin mode to 2x2.  
00:47:10 Setting filter to Luminance.  
00:47:12 Taking 5 second image for Plate Solve...  
00:47:31 Saving Image...  
00:47:31 Performing Plate Solve with CCDSoft...  
00:47:32 Plate solve results:  
00:47:32 Pixel Scale = 1.85 asp.  
00:47:32 North Angle = 18.34 degrees.  
00:47:32 J2000 Coordinates = RA: 12h 36m 19.4s Dec: +25°59'02"  
00:47:32 Syncing to RA 12.61046, Dec 25.94989  
00:47:39 Setting image type to Light.  
00:47:39 Setting imager bin mode to 1x1.  
00:47:39 Setting filter to Luminance.  
00:47:40 Setting imager to full frame.  
00:47:40 Setting imager exposure time to 450 seconds.  
00:47:42 Setting autoguider bin mode to 2x2.  
00:47:42 Taking a 3 second autoguider exposure.  
00:47:52 Beginning guide star search...  
00:47:53 Found possible guide star at 184, 189 with a max brightness of 7212 ADU.  
00:47:53 Taking a 3 second autoguider exposure.  
00:47:59 Beginning guide star search...  
00:48:01 Found appropriate guide star at 183, 188 with a max brightness of 10471 ADU.  
00:48:01 Trying to autoguide on star at 183.0,188.0.  
00:48:01 Starting to autoguide.  
00:48:13 Checking autoguider max error...  
00:48:15 Autoguider error: X=0.21 Y=-0.74  
00:48:15 Checking autoguider max error...  
00:48:19 Autoguider error: X=0.01 Y=-1.05  
00:48:19 Checking autoguider max error...  
00:48:24 Autoguider error: X=0.09 Y=-1.17  
00:48:24 Checking autoguider max error...  
00:48:29 Autoguider error: X=-0.59 Y=-1.63  
00:48:29 Checking autoguider max error...  
00:48:35 Autoguider error: X=0.11 Y=-1.66  
00:48:35 Checking autoguider max error...  
00:48:40 Autoguider error: X=0.45 Y=-1.81  
00:48:40 Checking autoguider max error...  
00:48:45 Autoguider error: X=-0.14 Y=-2.03  
00:48:45 Checking autoguider max error...  
00:48:50 Autoguider error: X=0.93 Y=-1.71  
00:48:50 Checking autoguider max error...  
00:48:54 Autoguider error: X=0.48 Y=-1.19  
00:48:54 Checking autoguider max error...  
00:48:58 Autoguider error: X=0.19 Y=-0.36  
00:48:58 Autoguider max error < 0.4!  
00:48:58 Stopping autoguider...  
00:49:00 Automatic guide star acquisition successful!  
00:49:00 Setting autoguider exposure time to 3 seconds.  
00:49:00 Setting guide star position to 183.0,188.0.

00:49:00 Starting to autoguide.  
00:49:13 Checking autoguider max error...  
00:49:13 Autoguider error: X=-0.48 Y=-0.48  
00:49:13 Checking autoguider max error...  
00:49:17 Autoguider error: X=-0.19 Y=-0.09  
00:49:17 Autoguider max error < 0.4!  
00:49:17 Starting imager exposure (1 of 4).  
00:56:56 Imager exposure complete.  
00:56:56 Stopping autoguider...  
00:56:58 Setting autoguider exposure time to 3 seconds.  
00:56:58 Setting guide star position to 185.0,188.0.  
00:56:58 Starting to autoguide.  
00:57:10 Checking autoguider max error...  
00:57:12 Autoguider error: X=-1.33 Y=-1.00  
00:57:12 Checking autoguider max error...  
00:57:17 Autoguider error: X=-0.39 Y=0.09  
00:57:17 Autoguider max error < 0.4!  
00:57:17 Starting imager exposure (2 of 4).  
01:04:56 Imager exposure complete.  
01:04:56 Stopping autoguider...  
01:04:58 Setting autoguider exposure time to 3 seconds.  
01:04:58 Setting guide star position to 185.0,190.0.  
01:04:58 Starting to autoguide.  
01:05:10 Checking autoguider max error...  
01:05:13 Autoguider error: X=-0.77 Y=-0.93  
01:05:13 Checking autoguider max error...  
01:05:17 Autoguider error: X=-0.32 Y=0.09  
01:05:17 Autoguider max error < 0.4!  
01:05:17 Starting imager exposure (3 of 4).  
01:12:56 Imager exposure complete.  
01:12:56 Stopping autoguider...  
01:12:58 Setting autoguider exposure time to 3 seconds.  
01:12:58 Setting guide star position to 183.0,190.0.  
01:12:58 Starting to autoguide.  
01:13:11 Checking autoguider max error...  
01:13:13 Autoguider error: X=0.14 Y=-0.02  
01:13:13 Autoguider max error < 0.4!  
01:13:13 Starting imager exposure (4 of 4).  
01:20:52 Imager exposure complete.  
01:20:52 Stopping autoguider...  
01:20:54 Take Images Action complete.  
01:20:54 Running Action List Iteration #2  
01:20:54 Starting move to action.  
01:20:54 Precessing cooridnates.  
01:20:54 J2000 Coordinates: RA: 12h 31m 01.0s Dec: +24°34'02"  
01:20:54 JNow Coordinates: RA: 12h 31m 19.4s Dec: +24°32'60"  
01:20:54 Slewing to SAO 82346...  
01:21:02 Done slewing!  
01:21:02 Starting post slew delay.  
01:21:05 Completed post slew delay.  
01:21:05 Setting imager bin mode to 2x2.  
01:21:05 Setting filter to Luminance.  
01:21:08 Taking 5 second image for Plate Solve...  
01:21:17 Saving Image...  
01:21:17 Performing Plate Solve with CCDSoft...  
01:21:19 Plate solve results:  
01:21:19 Pixel Scale = 1.86 asp.  
01:21:19 North Angle = 18.37 degrees.  
01:21:19 J2000 Coordinates = RA: 12h 31m 02.8s Dec: +24°36'31"  
01:21:19 Syncing to RA 12.52257, Dec 24.57457  
01:21:26 Starting focus run...  
01:23:14 Focus succeeded! HFD = 3.01  
01:23:14 Starting move to action.  
01:23:14 Precessing cooridnates.  
01:23:14 J2000 Coordinates: RA: 12h 36m 20.0s Dec: +25°59'16"  
01:23:14 JNow Coordinates: RA: 12h 36m 38.3s Dec: +25°57'14"  
01:23:14 Slewing to ngc4565...  
01:23:24 Done slewing!

01:23:24 Starting post slew delay.  
01:23:27 Completed post slew delay.  
01:23:27 Setting imager bin mode to 2x2.  
01:23:27 Setting filter to Luminance.  
01:23:29 Taking 5 second image for Plate Solve...  
01:23:47 Saving Image...  
01:23:48 Performing Plate Solve with CCDSoft...  
01:23:49 Plate solve results:  
01:23:49 Pixel Scale = 1.86 asp.  
01:23:49 North Angle = 18.34 degrees.  
01:23:49 J2000 Coordinates = RA: 12h 36m 19.9s Dec: +25°59'02"  
01:23:49 Syncing to RA 12.61062, Dec 25.95016  
01:23:54 Setting image type to Light.  
01:23:54 Setting imager bin mode to 1x1.  
01:23:54 Setting filter to Luminance.  
01:23:56 Setting imager to full frame.  
01:23:56 Setting imager exposure time to 450 seconds.  
01:23:57 Setting autoguider bin mode to 2x2.  
01:23:57 Taking a 3 second autoguider exposure.  
01:24:08 Beginning guide star search...  
01:24:09 Found possible guide star at 184, 190 with a max brightness of 7790 ADU.  
01:24:09 Taking a 3 second autoguider exposure.  
01:24:15 Beginning guide star search...  
01:24:17 Found appropriate guide star at 183, 190 with a max brightness of 10270 ADU.  
01:24:17 Trying to autoguide on star at 183.0,190.0.  
01:24:17 Starting to autoguide.  
01:24:29 Checking autoguider max error...  
01:24:29 Autoguider error: X=0.23 Y=-0.84  
01:24:29 Checking autoguider max error...  
01:24:34 Autoguider error: X=0.75 Y=-0.88  
01:24:34 Checking autoguider max error...  
01:24:37 Autoguider error: X=0.02 Y=-1.29  
01:24:37 Checking autoguider max error...  
01:24:42 Autoguider error: X=0.67 Y=-1.22  
01:24:42 Checking autoguider max error...  
01:24:46 Autoguider error: X=0.57 Y=-1.37  
01:24:46 Checking autoguider max error...  
01:24:50 Autoguider error: X=0.76 Y=-1.54  
01:24:50 Checking autoguider max error...  
01:24:54 Autoguider error: X=0.80 Y=-1.62  
01:24:54 Checking autoguider max error...  
01:24:58 Autoguider error: X=0.14 Y=-1.38  
01:24:58 Checking autoguider max error...  
01:25:03 Autoguider error: X=0.47 Y=-0.86  
01:25:03 Checking autoguider max error...  
01:25:07 Autoguider error: X=-0.22 Y=-0.19  
01:25:07 Autoguider max error <0.4!  
01:25:07 Stopping autoguider...  
01:25:09 Automatic guide star acquisition successful!  
01:25:09 Setting autoguider exposure time to 3 seconds.  
01:25:09 Setting guide star position to 183.0,190.0.  
01:25:09 Starting to autoguide.  
01:25:21 Checking autoguider max error...  
01:25:21 Autoguider error: X=-0.13 Y=-0.67  
01:25:22 Checking autoguider max error...  
01:25:25 Autoguider error: X=-0.35 Y=-0.19  
01:25:25 Autoguider max error < 0.4!  
01:25:25 Starting imager exposure (1 of 4).  
01:33:04 Imager exposure complete.  
01:33:04 Stopping autoguider...  
01:33:06 Setting autoguider exposure time to 3 seconds.  
01:33:07 Setting guide star position to 185.0,190.0.  
01:33:07 Starting to autoguide.  
01:33:19 Checking autoguider max error...  
01:33:19 Autoguider error: X=-0.13 Y=-0.06  
01:33:19 Autoguider max error < 0.4!  
01:33:19 Starting imager exposure (2 of 4).

01:40:58 Imager exposure complete.  
01:40:58 Stopping autoguider...  
01:41:00 Setting autoguider exposure time to 3 seconds.  
01:41:00 Setting guide star position to 185.0,192.0.  
01:41:00 Starting to autoguide.  
01:41:12 Checking autoguider max error...  
01:41:13 Autoguider error: X=0.26 Y=-0.66  
01:41:13 Checking autoguider max error...  
01:41:17 Autoguider error: X=0.68 Y=0.41  
01:41:17 Checking autoguider max error...  
01:41:21 Autoguider error: X=-0.13 Y=0.11  
01:41:21 Autoguider max error < 0.4!  
01:41:21 Starting imager exposure (3 of 4).  
01:48:59 Imager exposure complete.  
01:48:59 Stopping autoguider...  
01:49:01 Setting autoguider exposure time to 3 seconds.  
01:49:01 Setting guide star position to 183.0,192.0.  
01:49:01 Starting to autoguide.  
01:49:13 Checking autoguider max error...  
01:49:14 Autoguider error: X=0.21 Y=0.00  
01:49:14 Autoguider max error < 0.4!  
01:49:14 Starting imager exposure (4 of 4).  
01:56:52 Imager exposure complete.  
01:56:52 Stopping autoguider...  
01:56:54 Take Images Action complete.  
01:56:54 Running Action List Iteration #3  
01:56:54 Starting move to action.  
01:56:54 Precessing coordindates.  
01:56:55 J2000 Coordinates: RA: 12h 31m 01.0s Dec: +24°34'02"  
01:56:55 JNow Coordinates: RA: 12h 31m 19.4s Dec: +24°32'60"  
01:56:55 Slewing to SAO 82346...  
01:57:03 Done slewing!  
01:57:03 Starting post slew delay.  
01:57:06 Completed post slew delay.  
01:57:06 Setting imager bin mode to 2x2.  
01:57:06 Setting filter to Luminance.  
01:57:08 Taking 5 second image for Plate Solve...  
01:57:17 Saving Image...  
01:57:18 Performing Plate Solve with CCDSoft...  
01:57:19 Plate solve results:  
01:57:19 Pixel Scale = 1.86 asp.  
01:57:19 North Angle = 18.33 degrees.  
01:57:19 J2000 Coordinates = RA: 12h 31m 01.4s Dec: +24°36'25"  
01:57:19 Syncing to RA 12.52218, Dec 24.57293  
01:57:26 Starting focus run...  
01:59:11 Focus succeeded! HFD = 2.93  
01:59:11 Starting move to action.  
01:59:11 Precessing coordindates.  
01:59:11 J2000 Coordinates: RA: 12h 36m 20.0s Dec: +25°59'16"  
01:59:11 JNow Coordinates: RA: 12h 36m 38.3s Dec: +25°57'14"  
01:59:11 Slewing to ngc4565...  
01:59:20 Done slewing!  
01:59:20 Starting post slew delay.  
01:59:23 Completed post slew delay.  
01:59:23 Setting imager bin mode to 2x2.  
01:59:23 Setting filter to Luminance.  
01:59:25 Taking 5 second image for Plate Solve...  
01:59:43 Saving Image...  
01:59:43 Performing Plate Solve with CCDSoft...  
01:59:44 Plate solve results:  
01:59:44 Pixel Scale = 1.86 asp.  
01:59:44 North Angle = 18.35 degrees.  
01:59:44 J2000 Coordinates = RA: 12h 36m 19.7s Dec: +25°59'02"  
01:59:44 Syncing to RA 12.61057, Dec 25.95002  
01:59:49 Setting image type to Light.  
01:59:49 Setting imager bin mode to 1x1.  
01:59:49 Setting filter to Luminance.  
01:59:51 Setting imager to full frame.

01:59:51 Setting imager exposure time to 450 seconds.  
01:59:52 Setting autoguider bin mode to 2x2.  
01:59:52 Taking a 3 second autoguider exposure.  
02:00:03 Beginning guide star search...  
02:00:04 Found possible guide star at 183, 193 with a max brightness of 7537 ADU.  
02:00:04 Taking a 3 second autoguider exposure.  
02:00:10 Beginning guide star search...  
02:00:11 Found appropriate guide star at 183, 193 with a max brightness of 8639 ADU.  
02:00:11 Trying to autoguide on star at 183.0,193.0.  
02:00:11 Starting to autoguide.  
02:00:24 Checking autoguider max error...  
02:00:24 Autoguider error: X=-0.57 Y=-0.45  
02:00:24 Checking autoguider max error...  
02:00:28 Autoguider error: X=0.02 Y=-0.39  
02:00:28 Autoguider max error < 0.4!  
02:00:28 Stopping autoguider...  
02:00:30 Automatic guide star acquisition successful!  
02:00:30 Setting autoguider exposure time to 3 seconds.  
02:00:30 Setting guide star position to 183.0,193.0.  
02:00:30 Starting to autoguide.  
02:00:42 Checking autoguider max error...  
02:00:43 Autoguider error: X=0.03 Y=-1.14  
02:00:43 Checking autoguider max error...  
02:00:47 Autoguider error: X=-0.13 Y=-1.24  
02:00:47 Checking autoguider max error...  
02:00:51 Autoguider error: X=-0.06 Y=-1.55  
02:00:51 Checking autoguider max error...  
02:00:56 Autoguider error: X=0.57 Y=-1.40  
02:00:56 Checking autoguider max error...  
02:01:00 Autoguider error: X=-0.03 Y=-1.81  
02:01:00 Checking autoguider max error...  
02:01:04 Autoguider error: X=0.47 Y=-1.93  
02:01:04 Checking autoguider max error...  
02:01:08 Autoguider error: X=-0.05 Y=-1.86  
02:01:08 Checking autoguider max error...  
02:01:13 Autoguider error: X=0.32 Y=-1.00  
02:01:13 Checking autoguider max error...  
02:01:17 Autoguider error: X=-0.11 Y=-0.48  
02:01:17 Checking autoguider max error...  
02:01:21 Autoguider error: X=-0.10 Y=-0.09  
02:01:21 Autoguider max error < 0.4!  
02:01:21 Starting imager exposure (1 of 4).  
02:09:00 Imager exposure complete.  
02:09:00 Stopping autoguider...  
02:09:02 Setting autoguider exposure time to 3 seconds.  
02:09:02 Setting guide star position to 185.0,193.0.  
02:09:02 Starting to autoguide.  
02:09:14 Checking autoguider max error...  
02:09:16 Autoguider error: X=-0.99 Y=-0.74  
02:09:16 Checking autoguider max error...  
02:09:20 Autoguider error: X=0.06 Y=-0.02  
02:09:20 Autoguider max error < 0.4!  
02:09:20 Starting imager exposure (2 of 4).  
02:16:58 Imager exposure complete.  
02:16:58 Stopping autoguider...  
02:17:01 Setting autoguider exposure time to 3 seconds.  
02:17:01 Setting guide star position to 185.0,195.0.  
02:17:01 Starting to autoguide.  
02:17:13 Checking autoguider max error...  
02:17:13 Autoguider error: X=-0.26 Y=-0.66  
02:17:13 Checking autoguider max error...  
02:17:17 Autoguider error: X=-0.34 Y=0.11  
02:17:17 Autoguider max error < 0.4!  
02:17:17 Starting imager exposure (3 of 4).  
02:24:56 Imager exposure complete.  
02:24:56 Stopping autoguider...  
02:24:58 Setting autoguider exposure time to 3 seconds.

02:24:58 Setting guide star position to 183.0,195.0.  
02:24:58 Starting to autoguide.  
02:25:02 Skip ahead at 02:25 action is active. Skipping ahead.  
02:25:02 Checking autoguider max error...  
02:25:02 Take Images Action failed.  
02:25:02 Skipping remainder of Action: Light 4x450s Luminance AS "ngc4565\_lum", AG Dither every 1 exp.  
02:25:03 Running Action List Iteration #4  
02:25:03 Skipping Action: Move to SAO 82346.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Focus with Luminance filter.  
02:25:03 Skipping Action: Move to ngc4565.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Light 4x450s Luminance AS "ngc4565\_lum", AG Dither every 1 exp.  
02:25:03 Running Action List Iteration #5  
02:25:03 Skipping Action: Move to SAO 82346.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Focus with Luminance filter.  
02:25:03 Skipping Action: Move to ngc4565.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Light 4x450s Luminance AS "ngc4565\_lum", AG Dither every 1 exp.  
02:25:03 Running Action List Iteration #6  
02:25:03 Skipping Action: Move to SAO 82346.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Focus with Luminance filter.  
02:25:03 Skipping Action: Move to ngc4565.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Light 4x450s Luminance AS "ngc4565\_lum", AG Dither every 1 exp.  
02:25:03 Running Action List Iteration #7  
02:25:03 Skipping Action: Move to SAO 82346.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Focus with Luminance filter.  
02:25:03 Skipping Action: Move to ngc4565.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Light 4x450s Luminance AS "ngc4565\_lum", AG Dither every 1 exp.  
02:25:03 Running Action List Iteration #8  
02:25:03 Skipping Action: Move to SAO 82346.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Focus with Luminance filter.  
02:25:03 Skipping Action: Move to ngc4565.  
02:25:03 Skipping Action: Plate Solve, Sync, and ReSlew.  
02:25:03 Skipping Action: Light 4x450s Luminance AS "ngc4565\_lum", AG Dither every 1 exp.  
02:25:03 Done running ngc4565\_lum\_30m.act