

| Date   | Time    | Exposure<br>Time [s] | RA       | DEC   | Object<br>Name | Filter | Filename               | Comments   |
|--------|---------|----------------------|----------|-------|----------------|--------|------------------------|--|
| 18-Oct | 01:11   | 300                  | 23 23 29 | 58 49 | Cas A          | SII    | casa_test-0001_SII     | Test SII exposure to see if object is centered. 5 minutes long so will be used if ok |
| 18-Oct | Unknown | 30                   | 23 23 29 | 58 49 | Cas A          | SII    | casa_test-0002_SII     | Test short exposure to ensure calibration  |
| 18-Oct | 01:25   | 300                  | 23 23 29 | 58 49 | Cas A          | SII    | cas_a_reading_0001_SII | First 5 minute exposure  |
| 18-Oct | 01:29   | 300                  | 23 23 29 | 58 49 | Cas A          | SII    | cas_a_reading_0002_SII | Second 5 minute exposure   |
| 18-Oct | 01:34   | 300                  | 23 23 29 | 58 49 | Cas A          | SII    | cas_a_reading_0003_SII | Third 5 minute exposure  |
| 18-Oct | 01:43   | 300                  | 23 23 29 | 58 49 | Cas A          | SII    | cas_a_reading_0004_SII | Fourth 5 minute exposure   |
| 18-Oct | 01:49   | 300                  | 23 23 29 | 58 49 | Cas A          | SII    | cas_a_reading_0005_SII | Fifth 5 minute exposure  |
| 18-Oct | 21:46   | 60                   | 23 23 26 | 58 49 | Cas A          | V      | CAS_A_V-001V           | 80cm Readings start here: Failed 60 second exposure due to tracking                  |
| 18-Oct | 21:47   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CAS_A_V-002V           | 30 second exposures for V filter   |
| 18-Oct | 21:47   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V-003V            |  |
| 18-Oct | 21:48   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V-004V            |  |
| 18-Oct | 22:48   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V-005V            |  |
| 18-Oct | 21:49   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V-006V            |  |
| 18-Oct | 21:49   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V-007V            |  |
| 18-Oct | 21:50   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V2-001V           | Second round of V filter exposures   |
| 18-Oct | 21:50   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CASA_V2-002V           |  |
| 18-Oct | 21:51   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CAS_A_V2-003V          |  |
| 18-Oct | 21:51   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CAS_A_V2-004V          |  |
| 18-Oct | 21:52   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CAS_A_V2-005V          |  |
| 18-Oct | 21:52   | 30                   | 23 23 26 | 58 49 | Cas A          | V      | CAS_A_V2-006V          |  |
| 18-Oct | 21:53   | 30                   | 23 23 26 | 58 49 | Cas A          | R      | CAS_A_R2-001R          | R filter exposures   |
| 18-Oct | 21:53   | 30                   | 23 23 26 | 58 49 | Cas A          | R      | CAS_A_R2-002R          |  |
| 18-Oct | 21:54   | 30                   | 23 23 26 | 58 49 | Cas A          | R      | CAS_A_R2-003R          |  |
| 18-Oct | 21:54   | 30                   | 23 23 26 | 58 49 | Cas A          | R      | CAS_A_R2-004R          |  |
| 18-Oct | 21:55   | 30                   | 23 23 26 | 58 49 | Cas A          | R      | CAS_A_R2-005R          |  |
| 18-Oct | 21:55   | 30                   | 23 23 26 | 58 49 | Cas A          | R      | CAS_A_R2-006R          |  |
| 18-Oct | 21:56   | 30                   | 23 23 26 | 58 49 | Cas A          | B      | CAS_A_B-001B           | B filter exposures   |
| 18-Oct | 21:56   | 30                   | 23 23 26 | 58 49 | Cas A          | B      | CAS_A_B-002B           |  |
| 18-Oct | 21:57   | 30                   | 23 23 26 | 58 49 | Cas A          | B      | CAS_A_B-003B           |  |
| 18-Oct | 21:57   | 30                   | 23 23 26 | 58 49 | Cas A          | B      | CAS_A_B-004B           |  |
| 18-Oct | 21:58   | 30                   | 23 23 26 | 58 49 | Cas A          | B      | CAS_A_B-005B           |  |

|        |       |     |    |    |    |    |    |       |      |                         |   |
|--------|-------|-----|----|----|----|----|----|-------|------|-------------------------|---|
| 18-Oct | 21:58 | 30  | 23 | 23 | 26 | 58 | 49 | Cas A | B    | CAS_A_B-006B            |   |
| 19-Oct | 21:45 | 600 | 23 | 23 | 23 | 58 | 49 | Cas A | Spec | CAS_A_spec_10           | 1.5m Readings start here: 10 minute exposures for spectroscopy on the 1.5m                |
| 19-Oct | 21:45 | 600 | 23 | 23 | 23 | 58 | 49 | Cas A | Spec | CAS_A_spec1_10          |   |
| 19-Oct | 21:45 | 600 | 23 | 23 | 23 | 58 | 49 | Cas A | Spec | CAS_A_spec2_10          |   |
| 19-Oct | 00:09 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0001_SII | Start of Third night on 1.2m SII. Taking groups of 3 at a time                            |
| 19-Oct | 00:14 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0002_SII |   |
| 19-Oct | 00:19 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0003_SII |   |
| 19-Oct | 00:27 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0004_SII | Dome moved, new group of 3 taken  |
| 19-Oct | 00:32 | 180 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0005_SII | Test exposure at 180s to account for resolution issues due to cloud cover                 |
| 19-Oct | 00:37 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0006_SII | Switched back to 300s as 180s had low definition and same noise                           |
| 19-Oct |       | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0007_SII |   |
| 19-Oct |       | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | SII  | cas_a_reading2-0008_SII |   |
| 19-Oct |       | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | O3   | cas_a_test-0001_SII     | Misnamed file. First OIII test image  |
| 19-Oct | 01:05 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | O3   | cas_a_reading-0001_O3   | Batch of 2 300s exposures with OIII filter  |
| 19-Oct | 01:10 | 300 | 23 | 23 | 23 | 58 | 49 | Cas A | O3   | cas_a_reading-0002_O3   |   |
| 19-Oct | 01:25 | 600 | 23 | 23 | 23 | 58 | 49 | Cas A | O3   | cas_a_reading-0003_O3   | Dome moved and sector reset, group of 2 taken for 10 minutes, 5 minutes were underexposed |
| 19-Oct | 01:35 | 600 | 23 | 23 | 23 | 58 | 49 | Cas A | O3   | cas_a_reading-0004_O3   |   |
| 19-Oct | 01:46 | 30  | 23 | 23 | 23 | 58 | 49 | Cas A | R    | cas_a_broad-0001_R      | Test exposure for the R filter  |
| 19-Oct | 01:46 | 30  | 24 | 23 | 23 | 59 | 49 | Cas A | R    | cas_a_broad-0002_R      | Exposure is good, group of 9 then taken with same   |
| 19-Oct | 01:47 | 30  | 25 | 23 | 23 | 60 | 49 | Cas A | R    | cas_a_broad-0003_R      |   |
| 19-Oct | 01:47 | 30  | 26 | 23 | 23 | 61 | 49 | Cas A | R    | cas_a_broad-0004_R      |   |
| 19-Oct | 01:48 | 30  | 27 | 23 | 23 | 62 | 49 | Cas A | R    | cas_a_broad-0005_R      |   |
| 19-Oct | 01:48 | 30  | 28 | 23 | 23 | 63 | 49 | Cas A | R    | cas_a_broad-0006_R      |   |
| 19-Oct | 01:49 | 30  | 29 | 23 | 23 | 64 | 49 | Cas A | R    | cas_a_broad-0007_R      |   |
| 19-Oct | 01:49 | 30  | 30 | 23 | 23 | 65 | 49 | Cas A | R    | cas_a_broad-0008_R      |   |
| 19-Oct | 01:50 | 30  | 31 | 23 | 23 | 66 | 49 | Cas A | R    | cas_a_broad-0009_R      |   |
| 19-Oct | 01:50 | 30  | 32 | 23 | 23 | 67 | 49 | Cas A | R    | cas_a_broad-0010_R      |   |
| 19-Oct | 01:54 | 900 | 32 | 23 | 23 | 67 | 49 | Cas A | HA   | cas_a_reading-0001_HA   | Final H-Alpha Exposure very hazy, lots of clouds  |