

60 inch Telescope Log

Observer: CALIKIAN

PI: ACL, Hydra,

Spectrograph: FAST

Grating: 300L

Date: 12/12/98

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| Number | Object      | R.A.  | Dec.  | L/R | Exp  | Comments                        |
|--------|-------------|-------|-------|-----|------|---------------------------------|
| 1-60   | DARK        |       |       |     | 15m  |                                 |
| 7-16   | BIAS        |       |       |     | 0s   |                                 |
| 17-26  | FLAT        |       |       |     | 6s   |                                 |
| 27-36  | BIAS        |       |       |     | 0s   |                                 |
| 37-46  | FLAT        |       |       |     | 12s  |                                 |
| 47-56  | FLAT        |       |       |     | 45s  | 1200 lpm, 1.5", 345 tilt        |
| 57-61  | sky         |       |       | #57 | 2s   | 1040 focus,                     |
| 62     | comp        |       |       | ↑   |      |                                 |
| 63     | Feigello    | 23 19 | -5 09 | #56 | 2.5m |                                 |
| 64     | comp        |       |       | ↑   |      |                                 |
| 65     | H7331       | 22 37 | 34 24 | #57 | 3 m  |                                 |
| 66     | comp        |       |       | ↑   |      |                                 |
| 67     | 2M230157.5p | 23 01 | 22 36 | #68 | 10m  | seeing poor                     |
| 68     | comp        |       |       | ↑   |      |                                 |
| 69     | 2M230236.5p | 23 02 | 22 49 | #68 | 12 m |                                 |
| 70     | comp        |       |       | ↑   |      |                                 |
| 71     | 2M230237.8p | 23 02 | 12 25 | #68 | 10m  | object to the east<br>(stellar) |
| 72     | comp        |       |       | ↑   |      |                                 |
| 73     | 2M230323.2p | 23 03 | 17 09 | #68 | 8m   |                                 |
| 74     | comp        |       |       | ↑   |      |                                 |
| 75     | 2M230348.4p | 23 03 | 20 24 | #68 | 10m  |                                 |
| 76     | comp        |       |       | ↑   |      |                                 |
| 77     | 2M230350.8p | 23 03 | 19 55 | #68 | 7m   |                                 |
| 78     | comp        |       |       | ↑   |      |                                 |
| 79     | 2M230403.7p | 23 04 | 20 16 | #68 | 10m  |                                 |
| 80     | comp        |       |       | ↑   |      |                                 |
| 81     | 2M230422.0p | 23 04 | 21 11 | #68 | 20m  |                                 |
| 82     | comp        |       |       | ↑   |      |                                 |
| 83     | 2M230425.1p | 23 04 | 19 26 | #68 | 12m  |                                 |
| 84     | comp        |       |       |     |      |                                 |

| 60 inch Telescope Log                      |              |       |       | Spectrograph: <u>FAST</u>   |         | Page: <u>6771</u>                         |
|--|--------------|-------|-------|-----------------------------|---------|---|
| Observer: <u>CALKINS</u>                   |              |       |       | Grating: <u>500L, 1200L</u> |         |   |
| PI: <u>Huchra, Koranyi, Garcia, Geller</u> |              |       |       | Date: <u>12/12/98</u>       |         |   |
| Number                                     | Object       | R.A.  | Dec.  | L/R                         | Exp     | Comments                                  |
| 85   | 2M230447.4p  | 23 04 | 19 36 | #68                         | 12m     |   |
| 86   | comp         |       |       | ↑                           |         |   |
| 87   | 2M230520.1p  | 23 05 | 21 03 | #68                         | 20m     |   |
| 88   | comp         |       |       | ↑                           |         |   |
| 89   | en1998as     | 01 37 | 05 52 | #2                          | 15m     |   |
| 90   | comp         |       |       | ↑                           |         |   |
| 91   | PG0205p134   | 02 08 | 13 39 | #56                         | 2m      |   |
| 92   | comp         |       |       | ↑                           |         |   |
| 93   | awm7-4.010   | 03 03 | 42 15 | #35F                        | 12m     |   |
| 94   | comp         |       |       | ↑                           |         |   |
| 95   | awm7-4.011   | 3 02  | 42 12 | #35F                        | 20m     | stellar <sup>240</sup> supergiant star??  |
| 96   | comp         |       |       | ↑                           |         |   |
| 97   | awm7-4.013   | 2 53  | 42 57 | #35F                        | 20m     |   |
| 98   | comp         |       |       | ↑                           |         |   |
| 99-101                                     | CICam        | 4 19  | 55 59 | #107                        | 2,20,90 |   |
| 102  | comp         |       |       | ↑                           |         |   |
| 103-104                                    | CICam        | 4 19  | 55 59 | #107                        | 5,7m    | 1200L, 280.0 tilt<br>(w 0.45 inch spacer) |
| 105  | comp         |       |       | ↑                           |         |   |
| 106  | a539.051406  | 5 14  | 5 19  | #64                         | 20m     |   |
| 107  | comp         |       |       | ↑                           |         |   |
| 108  | a539.051409p | 5 14  | 4 21  | #64                         | 20m     |   |
| 109  | comp         |       |       | ↑                           |         |   |
| 110  | a539.051419p | 5 14  | 1 47  | #64                         | 20m     |   |
| 111  | comp         |       |       | ↑                           |         |   |
| 112  | a539.051419p | 5 14  | 5 11  | #64                         | 7m      | supposed star                             |
| 113  | comp         |       |       | ↑                           |         |   |
| 114  | a539.051421p | 5 14  | 8 23  | #64                         | 10m     |   |
| 115  | comp         |       |       | ↑                           |         |   |
| 116  | a539.051429p | 5 14  | 5 36  | #64                         | 8m      | object to the west                        |
| 117  | comp         |       |       | ↑                           |         |   |

| 60 inch Telescope Log                    |                 |      | Spectrograph: <u>FAST</u>   |           |                   |                        |
|--|-----------------|------|-----------------------------|-----------|-------------------|------------------------|
| Observer: <u>Collins</u>                 |                 |      | Grating: <u>300L 1200 L</u> |           | Page: <u>6772</u> |                        |
| PI: <u>Geller, Kenyon, Welch, Barton</u> |                 |      | Date: <u>12/12/98</u>       |           |                   |                        |
| Number                                   | Object          | R.A. | Dec.                        | L/R       | Exp               | Comments               |
| 118                                      | 2539.051434 p   | 5 14 | 3 48                        | $\pi$ 64  | 20m               | binby 2                |
| 119                                      | comp            |      |                             | ↑         |                   |                        |
| 120                                      | BGGem           | 6 03 | 29 41                       | $\pi$ 100 | 6m                | binby 2                |
| 121                                      | comp            |      |                             | ↑         |                   |                        |
| 122                                      | 053212m0020     | 5 32 | -00 20                      | $\pi$ 109 | 15m               | 1200L 345 tilt,        |
| 123                                      | comp            |      |                             | ↑         |                   | 1.5" slit, extra focus |
| 124                                      | 053216m0021     | 5 32 | -00 21                      | $\pi$ 109 | 10m               |                        |
| 125                                      | comp            |      |                             | ↑         |                   |                        |
| 126                                      | 053221m0017     | 5 32 | -00 17                      | $\pi$ 109 | 10m               |                        |
| 127                                      | comp            |      |                             | ↑         |                   |                        |
| 128                                      | 053222m0028     | 5 32 | -00 28                      | $\pi$ 109 | 6m                | Binby 2                |
| 129                                      | comp            |      |                             | ↑         |                   |                        |
| 130                                      | 053226m0029     | 5 32 | -00 29                      | $\pi$ 109 | 15m               |                        |
| 131                                      | comp            |      |                             | ↑         |                   |                        |
| 132                                      | 053227m0024     | 5 32 | -00 24                      | $\pi$ 109 | 15m               |                        |
| 133                                      | comp            |      |                             | ↑         |                   |                        |
| 134                                      | 053228m0013     | 5 32 | -00 13                      | $\pi$ 109 | 5m                |                        |
| 135                                      | comp            |      |                             | ↑         |                   |                        |
| 136                                      | 053229m0017     | 5 32 | -00 17                      | $\pi$ 109 | 5m                |                        |
| 137                                      | comp            |      |                             | ↑         |                   |                        |
| 138                                      | 053245m0026     | 5 32 | -00 22                      | $\pi$ 109 | 10m               |                        |
| 139                                      | comp            |      |                             | ↑         |                   |                        |
| 140                                      | noval-061       | 9 24 | 40 37                       | $\pi$ 78  | 18m               | tried to rotate for    |
| 141                                      | comp            |      |                             | ↑         |                   | noval-062 but          |
| 142                                      | noval-062       | 9 24 | 40 38                       | $\pi$ 73  | 20m               | rotator is good only   |
| 143                                      | comp            |      |                             | ↑         |                   | +110° to -110°         |
| 144                                      | noval-076 & 077 | 9 39 | 32 21                       | $\pi$ 73  | 15m               | PA = 71°, noval-077    |
| 145                                      | comp            |      |                             | ↑         |                   | is east of 076, binby  |
| 146                                      | noval-078       | 9 43 | 42 28                       | $\pi$ 73  | 20m               | binby 2                |
| 147                                      | comp            |      |                             | ↑         |                   |                        |

bright superposed star on noval-076. ' jul has em

| 60 inch Telescope Log    |          |       | Spectrograph: FAST    |     |                   |  |
|--------------------------|----------|-------|-----------------------|-----|-------------------|--|
| Observer: <u>Calkins</u> |          |       | Grating: <u>300L</u>  |     | Page: <u>6773</u> |  |
| PI: <u>Kirchner, All</u> |          |       | Date: <u>12/12/98</u> |     |                   |  |
| Number                   | Object   | R.A.  | Dec.                  | L/R | Exp               | Comments   |
| 148,149                  | SN1986u  | 10 46 | 11 49                 | π/2 | 20m               | PA=39.0°   |
| 150                      | comp     |       |                       | ↑   |                   |  |
| 151                      | Feige 34 | 10 39 | 43 06                 | π/6 | 3m                | PA=27.0°   |
| 152                      | comp     |       |                       | ↑   |                   |  |
| 153                      | MRK421   | 11 04 | 38 12                 | π/6 | 4m                |  |
| 154                      | comp     |       |                       | ↑   |                   |  |
| 155                      | N4051    | 12 03 | 44 52                 | π/6 | 2m                |  |
| 156                      | comp     |       |                       | ↑   |                   |  |
| 157                      | N4258    | 12 18 | 47 18                 | π/6 | 2m                |  |
| 158                      | comp     |       |                       | ↑   |                   |  |
| 159                      | MRK279   | 13 52 | 69 18                 | π/6 | 3m                |  |
| 160                      | comp     |       |                       | ↑   |                   |  |
| 161                      | N4151    | 12 10 | 39 24                 | π/6 | 30s               |  |
| 162                      | comp     |       |                       | ↑   |                   |  |
| 163                      | Feige66  | 12 37 | 25 04                 | π/6 | 45s               |  |
| 164                      | comp     |       |                       | ↑   |                   |  |
| 165-174                  | bias     |       |                       |     | 0s                |  |
| 175-184                  | flat     |       |                       |     | 10s               |  |
| 185-194                  | bias     |       |                       |     | 0s                |  |
| 195-204                  | flat     |       |                       |     | 12s               |  |
| 205-214                  | flat     |       |                       |     | 6s                | 1200L, 280 KIT,<br>1040 focus<br>(For Mike Garcia) |
| 215-224                  | Dark     |       |                       |     | 15m               |  |