

60 inch Telescopa Log  
 Observer: B. Carter  
 PI: Kenyon, Malidani, McClintock

Spectrograph: FAST PA 90°  
 Grating: 300A, 3" slit except as noted Page: 6052  
 Date: 2/23/98 all binlog4 except as noted

| Number | Object       | R. A. | Dec.   | L/R | Exp       | Comments                 |
|--------|--------------|-------|--------|-----|-----------|--------------------------|
| 1-5    | DARK         |       |        |     | 15m       |                          |
| 6-10   | DARK         |       |        |     | 20m       | binlog2                  |
| 11-20  | BIAS         |       |        |     | 0         |                          |
| 21-30  | BIAS         |       |        |     | 0         | binlog2                  |
| 31-40  | FLAT         |       |        |     | 6         |                          |
| 41-50  | FLAT         |       |        |     | 12        | binlog2                  |
| 51-60  | FLAT         |       |        |     | 20        | 1.1" slit, binlog4       |
| 61, 62 | AXPer        | 1:36  | +54:15 | 12  | 4s, 100s  |                          |
| 63     | COMP         |       |        | ↑   |           |                          |
| 64, 65 | DGTau        | 04:27 | +26:06 | 12  | 12s, 70s  |                          |
| 66     | COMP         |       |        | ↑   |           |                          |
| 67, 68 | DLTau        | 04:33 | +25:20 | 12  | 30s, 240s |                          |
| 69     | COMP         |       |        | ↑   |           |                          |
| 70, 71 | DRTau        | 04:47 | +16:58 | 12  | 12s, 80s  |                          |
| 72     | COMP         |       |        | ↑   |           |                          |
| 73, 74 | RWAur        | 05:07 | +30:24 | 12  | 5s, 30s   |                          |
| 75     | COMP         |       |        | ↑   |           |                          |
| 76-78  | HD 215770    | 05:38 | +26:18 | 77  | 30s       | 1.1" slit                |
| 79     | COMP         |       |        | ↑   | 8s        | ↓                        |
| 80     | srgeb 119.38 | 01:56 | +03:37 | 59  | 4m        | bright star to W (broad) |
| 81     | COMP         |       |        | ↑   |           |                          |
| 82     | NGC 1700     | 04:54 | -04:56 | 57  | 150s      |                          |
| 83     | COMP         |       |        | ↑   |           |                          |
| 84     | srgeb 004.17 | 08:38 | +25:19 | 59  | 5m        |                          |
| 85     | COMP         |       |        | ↑   |           |                          |
| 86     | .18          | 08:38 | +25:19 | 59  | 7m        |                          |
| 87     | COMP         |       |        | ↑   |           |                          |
| 88     | .19          | 08:38 | +24:53 | 59  | 5m        |                          |
| 89     | COMP         |       |        | ↑   |           |                          |
| 90     | .20          | 08:38 | +25:16 | 59  | 6m        |                          |
| 91     | COMP         |       |        | ↑   |           |                          |

60 inch Telescope Log  
 Observer: B. Carter  
 PI: Huchra, Carter  
 Spectrograph: FAST  
 Grating: 300A Page: 6053  
 Date: 2/23/98

| Number | Object     | R.A.  | Dec.   | L/R | Exp  | Comments           |
|--------|------------|-------|--------|-----|------|--------------------|
| 92     | nrq6004.25 | 08:38 | +24:10 | 99  | 7m   | agn!               |
| 93     | COMP       |       |        | ↑   |      |                    |
| 94     | nrq6004.26 | 08:38 | +25:45 | 59  | 5m   | sky is very dark   |
| 95     | COMP       |       |        | ↑   |      |                    |
| 96     | 2M084842.1 | 08:48 | +06:53 | 68  | 20m  | #1                 |
| 97     | COMP       |       |        | ↑   |      |                    |
| 98     | 2M084847.9 | 08:48 | +10:25 | 68  | 5m   | * gusty wind #2    |
| 99     | COMP       |       |        | ↑   |      |                    |
| 100    | 2M084851.7 | 08:48 | +06:59 | 68  | 15m  | #9                 |
| 101    | COMP       |       |        | ↑   |      |                    |
| 102    | 2M084854.5 | 08:48 | +07:00 | 68  | 15m  | #10                |
| 103    | COMP       |       |        | ↑   |      |                    |
| 104    | 2M084857.0 | 08:48 | +06:56 | 68  | 15m  | gusts to 20mph #12 |
| 105    | COMP       |       |        | ↑   |      |                    |
| 106    | 2M084859.2 | 08:48 | +05:55 | 68  | 10m  | #14                |
| 107    | COMP       |       |        | ↑   |      |                    |
| 108    | Z010002    | 09:41 | +28:06 | 75  | 4m   | #109               |
| 109    | COMP       |       |        | ↑   |      |                    |
| 110    | Z010003    | 09:41 | +27:38 | 75  | 3m   | #110               |
| 111    | COMP       |       |        | ↑   |      |                    |
| 112    | Z000165    | 09:42 | +31:50 | 75  | 1m   | huge! #111         |
| 113    | COMP       |       |        | ↑   |      |                    |
| 114    | Z000602    | 09:43 | +31:55 | 75  | 1m   | huge! #112         |
| 115    | COMP       |       |        | ↑   |      |                    |
| 116    | Z003993    | 09:43 | +31:58 | 75  | 3m   | #113               |
| 117    | COMP       |       |        | ↑   |      |                    |
| 118    | Z006238    | 09:44 | +31:05 | 75  | 150s | #114               |
| 119    | COMP       |       |        | ↑   |      |                    |
| 120    | Z005385    | 09:46 | +30:39 | 75  | 3m   | #115               |
| 121    | COMP       |       |        | ↑   |      |                    |

| 60 inch Telescope Log       |              |       |        | Spectrograph: <u>EAST</u> |                  |   |
|-----------------------------|--------------|-------|--------|---------------------------|------------------|---|
| Observer: <u>B. Carter</u>  |              |       |        | Grating: <u>300A</u>      |                  | Page: <u>6054</u>   |
| PI: <u>Carter, Kirshner</u> |              |       |        | Date: <u>2/23/98</u>      |                  |   |
| Number                      | Object       | R.A.  | Dec.   | L/R                       | Exp              | Comments  |
| 122                         | Z 002066     | 09:49 | +32:13 | 75                        | 3 <sup>t</sup> m | 116   |
| 123                         | COMP         |       |        | ↑                         |                  |   |
| 124                         | Z 010004     | 09:50 | +31:44 | 75                        | 2m               | still gushing to 20mph 117                                |
| 125                         | COMP         |       |        | ↑                         |                  |   |
| 126                         | Z 010005     | 09:50 | +28:00 | 75                        | 3 <sup>t</sup> m | 118   |
| 127                         | COMP         |       |        | ↑                         |                  |   |
| 128                         | N 000499     | 09:50 | +31:29 | 75                        | 6m               | is this a galaxy? or smudge on plate                      |
| 129                         | COMP         |       |        | ↑                         |                  | slightly to W of "gal" (can't see "galaxy")               |
| 130                         | Z 007357     | 09:50 | +30:29 | 75                        | 3m               | 120   |
| 131                         | COMP         |       |        | ↑                         |                  |   |
| 132                         | Z 001331     | 09:50 | +28:33 | 75                        | 5m               | large, aligned along slit. 121                            |
| 133                         | ↑ COMP       |       |        | ↑                         |                  |   |
| 134                         | Z 001331 sky | 09:50 | +28:33 | 75                        | 5m               | sky for background subtr.)                                |
| 135                         | COMP         |       |        | ↑                         |                  |   |
| 136                         | Z 007358     | 09:51 | +30:35 | 75                        | 4m               | em. lines 122   |
| 137                         | COMP         |       |        | ↑                         |                  |   |
| 138                         | Z 013707     | 09:51 | +26:17 | 75                        | 3m               | 123   |
| 139                         | COMP         |       |        | ↑                         |                  |   |
| 140                         | Z 011647     | 09:54 | +31:37 | 75                        | 6m               | faint face-on disk (sharply defined nucleus in chart) 124 |
| 141                         | COMP         |       |        | ↑                         |                  |   |
| 142                         | Z 010006     | 09:55 | +31:29 | 75                        | 5m               | 125   |
| 143                         | COMP         |       |        | ↑                         |                  |   |
| 144                         | Feige 34     | 10:36 | +43:21 | 56                        | 90s              |   |
| 145                         | COMP         |       |        | ↑                         |                  |   |
| 146                         | SN 1998R     | 11:14 | +30:18 | 2                         | 15m              | binby 2 (the SN we found)                                 |
| 147                         | COMP         |       |        | ↑                         | 12s              | ↓   |
| 148                         | N 000279     | 08:56 | +27:13 | 75                        | 2m               | em. lines 126   |
| 149                         | COMP         |       |        | ↑                         |                  |   |
| 150                         | A 000938     | 09:58 | +32:04 | 75                        | 2m               | 127   |
| 151                         | COMP         |       |        | ↑                         |                  |   |

60 inch Telescope Log  
 Observer: B Carter  
 PI: Carter, Geller  
 Spectrograph: FAST  
 Grating: 300 l  
 Date: 2/23/98  
 Page: 6055

| Number | Object      | R.A.  | Dec.   | L/R | Exp | Comments                                    |
|--------|-------------|-------|--------|-----|-----|---|
| 152    | Z 011649    | 09:58 | +31:37 | 75  | 2m  | H $\alpha$ em 125                           |
| 153    | COMP        |       |        | ↑   |     |   |
| 154    | N 002940    | 09:59 | +31:40 | 75  | 5m  | 129   |
| 155    | COMP        |       |        | ↑   |     |   |
| 156    | N 000192    | 10:04 | +31:11 | 75  | 2m  | 130   |
| 157    | COMP        |       |        | ↑   |     |   |
| 158    | Z 011650    | 10:06 | +28:10 | 75  | 5m  | 131   |
| 159    | COMP        |       |        | ↑   |     |   |
| 160    | Z 013708    | 10:06 | +32:13 | 75  | 6m  | 132   |
| 161    | COMP        |       |        | ↑   |     |   |
| 162    | N 001745    | 10:06 | +31:05 | 75  | 3m  | 133   |
| 163    | COMP        |       |        | ↑   |     |   |
| 164    | Z 008530    | 10:06 | +31:28 | 75  | 3m  | 134   |
| 165    | COMP        |       |        | ↑   |     |   |
| 166    | Z 011652    | 10:07 | +30:32 | 75  | 5m  | 135   |
| 167    | COMP        |       |        | ↑   |     |   |
| 168    | Z 000936    | 10:08 | +31:51 | 75  | 3m  | big edge-on spiral <del>136</del>           |
| 169    | COMP        |       |        | ↑   |     |   |
| 170    | a 1367.2875 | 11:45 | +19:09 | 64  | 5m  | 139   |
| 171    | COMP        |       |        | ↑   |     |   |
| 172    | .2879       | 11:47 | +19:09 | 64  | 5m  | 120   |
| 173    | COMP        |       |        | ↑   |     |   |
| 174    | .2897       | 11:41 | +19:03 | 64  | 5m  | 131   |
| 175    | COMP        |       |        | ↑   |     |   |
| 176    | .2932       | 11:34 | +18:40 | 64  | 15m | strong emission lines<br>* on slit to W 122 |
| 177    | COMP        |       |        | ↑   |     |   |
| 178    | .2942       | 11:41 | +18:43 | 64  | 7m  | abs. lines 133                              |
| 179    | COMP        |       |        | ↑   |     |   |
| 180    | .3028       | 11:38 | +18:20 | 64  | 10m | 134   |
| 181    | COMP        |       |        | ↑   |     |   |

60 inch Telescope Log  
 Observer: B. Carter  
 PI: Geller, Carter, Kirshner, Barton  
 Spectrograph: FAST  
 Grating: 3001  
 Date: 2/23/98  
 Page: 6056

| Number | Object     | R.A.  | Dec.   | L/R | Exp              | Comments  |
|--------|------------|-------|--------|-----|------------------|---|
| 182    | a1367.3066 | 11:37 | +18:11 | 64  | 7m               | still very windy 125  |
| 183    | COMP       |       |        | ↑   |                  |   |
| 184    | a1367.3071 | 11:38 | +18:13 | 64  | 5 <sup>+</sup> m | 126   |
| 185    | COMP       |       |        | ↑   |                  |   |
| 186    | H244       | 13:21 | +36:23 | 56  | 30s              |   |
| 187    | COMP       |       |        | ↑   |                  |   |
| 188    | E013739 N  | 12:42 | +26:38 | 75  | 10m              | } interacting pair? 302<br>← name wrong in header, change N→S |
| 189    | E013739 S  | "     | "      | 75  | 10m              |   |
| 190    | COMP       |       |        | ↑   |                  |   |
| 191    | N000148    | 12:45 | +27:03 | 75  | 3m               | 302   |
| 192    | COMP       |       |        | ↑   |                  |   |
| 193    | E007385    | 12:46 | +29:44 | 75  | 3 <sup>+</sup> m | 403   |
| 194    | COMP       |       |        | ↑   |                  |   |
| 195    | E006251    | 12:46 | +26:33 | 75  | 3m               | 404   |
| 196    | COMP       |       |        | ↑   |                  |   |
| 197    | SN1998 D   | 14:02 | +34:44 | 2   | 20m              | bin by 2  |
| 198    | COMP       |       |        | ↑   | 12s              | ↓   |
| 199    | H244       | 13:21 | +36:23 | 56  | 2m               | bin by 2 for the SNe  |
| 200    | COMP       |       |        | ↑   | 12s              | ↓   |
| 201    | ngal-421   | 15:04 | +13:03 | 73  | 12m              | 34  |
| 202    | COMP       |       |        | ↑   |                  |   |
| 203    | ngal-422   | 15:04 | +13:02 | 73  | 10m              | 35  |
| 204    | COMP       |       |        | ↑   |                  |   |
| 205    | ngal-426   | 15:05 | +19:46 | 73  | 10m              | oops! that was supposed to be 6 minutes... oh well! 36        |
| 206    | COMP       |       |        | ↑   |                  |   |
| 207    | ngal-439   | 15:26 | +43:06 | 73  | 6m               | 37  |
| 208    | COMP       |       |        | ↑   |                  |   |
| 209    | ngal-445   | 15:34 | +43:40 | 73  | 9m               | Star to E? 39   |
| 210    | COMP       |       |        | ↑   |                  |   |
| 211    | ngal-472   | 16:02 | +17:53 | 73  | 11m              | edge-on spiral along slit, has a small companion gal to E. 40 |
| 212    | COMP       |       |        | ↑   |                  |   |

60 inch Telescope Log  
 Observer: B. Carter  
 PI: Barton, Wilkes, Kenyon  
 Spectrograph: FAST  
 Grating: 300 l  
 Date: 2/23/98  
 Page: 6057

| Number  | Object           | R. A.         | Dec.          | L/R       | Exp           | Comments                  |
|---------|------------------|---------------|---------------|-----------|---------------|---------------------------|
| 213     | <u>Wegal_473</u> | <u>16:02</u>  | <u>+17:51</u> | <u>73</u> | <u>8m</u>     | <u>41</u>                 |
| 214     | <u>COMP</u>      |               |               | <u>↑</u>  |               |                           |
| 215     | <u>N4051</u>     | <u>12:00</u>  | <u>+44:48</u> | <u>6</u>  | <u>2m</u>     | <u>4</u>                  |
| 216     | <u>COMP</u>      |               |               | <u>↑</u>  |               |                           |
| 217     | <u>N4258</u>     | <u>12:16</u>  | <u>+47:34</u> | <u>6</u>  | <u>2m</u>     | <u>6</u>                  |
| 218     | <u>COMP</u>      |               |               | <u>↑</u>  |               |                           |
| 219     | <u>MRK279</u>    | <u>13:51</u>  | <u>+69:33</u> | <u>6</u>  | <u>3m</u>     | <u>7</u>                  |
| 220     | <u>COMP</u>      |               |               | <u>↑</u>  |               |                           |
| 221-222 | <u>AG Dra</u>    | <u>16:01</u>  | <u>+66:48</u> | <u>12</u> | <u>5s, 1m</u> | <u>8</u>                  |
| 223     | <u>COMP</u>      |               |               | <u>↑</u>  |               |                           |
| 224-233 | <u>BIAS</u>      | <u>zenith</u> |               |           | <u>0</u>      |                           |
| 234-243 | <u>BIAS</u>      |               |               |           | <u>0</u>      | <u>binby 2</u>            |
| 244-249 | <u>sky</u>       |               |               |           | <u>10s</u>    |                           |
| 250     | <u>COMP</u>      |               |               | <u>↑</u>  |               |                           |
| 251-260 | <u>FLAT</u>      |               |               |           | <u>6s</u>     |                           |
| 261-270 | <u>FLAT</u>      |               |               |           | <u>12s</u>    | <u>binby 2</u>            |
| 271-280 | <u>FLAT</u>      |               |               |           | <u>20s</u>    | <u>1.1" slit, binby 4</u> |