

60 inch Telescope Log  
 Observer: P. Berlind  
 PI: All

Spectrograph: FAST  
 Grating: 300  
 Date: 10/28/97

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| Number | Object    | R. A.  | Dec.   | L/R | Exp     | Comments                                    |
|--------|-----------|--------|--------|-----|---------|---|
| 1-15   | DARK      |        |        | 0   | 15m     | (note: DARKS @ end are<br>20-min; bin by 2) |
| 9-18   | BIAS      |        |        | 0   | 0s      |   |
| 19-28  | FLAT      |        |        | 0   | 6s      |   |
| 29-38  | BIAS      |        |        | 0   | 0s      | bin by 2                                    |
| 39-48  | FLAT      |        |        | 0   | 12s     | 5:55 bin by 2                               |
| 49-54  | sky       | zenith |        | 57  | 4s      |   |
| 55     | COMP      |        |        | ↑   |         | scattered clouds                            |
| 56-58  | HD 18694  | 19:23  | +47:23 | 57  | 1s      |   |
| 59     | COMP      |        |        | ↑   |         |   |
| 60-62  | HD 189557 | 20:00  | +41:59 | 57  | 1s      |   |
| 63     | COMP      |        |        | ↑   |         |   |
| 64-66  | HD 182572 | 19:24  | +11:56 | 57  | 2s      |   |
| 67     | COMP      |        |        | ↑   |         |   |
| 68-70  | HD 189551 | 20:00  | +01:21 | 57  | 2s      |   |
| 71     | COMP      |        |        | ↑   |         |   |
| 72-74  | HD 332955 | 19:48  | +28:14 | 57  | 5s      |   |
| 75     | COMP      |        |        | ↑   |         |   |
| 76-78  | HD 227018 | 19:51  | +55:18 | 57  | 5s      |   |
| 79     | COMP      |        |        | ↑   |         |   |
| 80-82  | HD 183589 | 19:31  | +10:03 | 57  | 20s     |   |
| 83     | COMP      |        |        | ↑   |         |   |
| 84     | 55433     | 19:11  | +04:58 | 57  | 3m      |   |
| 85     | COMP      |        |        | ↑   |         |   |
| 86-87  | CICog     | 19:50  | +35:11 | 12  | 1s, 30s |   |
| 88     | COMP      |        |        | ↑   |         |   |
| 89-91  | HD 192281 | 20:10  | +40:07 | 56  | 4s      |   |
| 92     | COMP      |        |        | ↑   |         |   |
| 93-94  | DDP 28424 | 21:18  | +28:37 | 57  | 30s     |   |
| 95     | COMP      |        |        | ↑   |         |   |
| 96     | N7331     | 22:39  | +54:09 | 57  | 3m      |   |

Had to reidentify all bin by 2 comps by hand.  
 Do not understand why

60 inch Telescope Log

Observer: PB

Spectrograph: FAST

Grating: 30R

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PI: Huchra

Date: 10/28/97

| Number | Object       | R.A.  | Dec.   | L/R | Exp | Comments                                    |
|--------|--------------|-------|--------|-----|-----|---|
| 97     | COMP         |       |        | ↑   |     |   |
| 98     | 17473p6115   | 17:47 | +61:41 | 43  | 5m  | em  |
| 99     | 17473p6111N  | 17:47 | +61:41 | 43  | 5m  | em  |
| 100    | COMP         |       |        | ↑   |     |   |
| 101    | 17491p5938   | 17:49 | +61:38 | 43  | 5m  | em  |
| 102    | COMP         |       |        | ↑   |     |   |
| 103    | 17491p6023   | 17:49 | +60:23 | 43  | 3m  |   |
| 104    | COMP         |       |        | ↑   |     |   |
| 105    | 17494p6137   | 17:49 | +61:36 | 43  | 11m | em  |
| 106    | COMP         |       |        | ↑   |     |   |
| 107    | 17494p6721   | 17:49 | +67:21 | 43  | 6m  |   |
| 108    | COMP         |       |        | ↑   |     |   |
| 109    | 17497p5949   | 17:49 | +59:49 | 43  | 3m  |   |
| 110    | COMP         |       |        | ↑   |     |   |
| 111    | 17504p7214   | 17:50 | +72:14 | 43  | 3m  |   |
| 112    | COMP         |       |        | ↑   |     |   |
| 113    | 17506p6250EW | 17:50 | +62:50 | 43  | 4m  | wk but ok I hope<br>binby 2; close E-W pair |
| 114    | 17506p6250N  | 17:50 | +62:50 | 43  | 4m  | "   |
| 115    | COMP         |       |        | ↑   |     | "   |
| 116    | 17509p7150   | 17:50 | +71:50 | 43  | 3m  |   |
| 117    | COMP         |       |        | ↑   |     |   |
| 118    | 17542p7134   | 17:54 | +71:34 | 43  | 12m | faint; em w/sky lines                       |
| 119    | COMP         |       |        | ↑   |     |   |
| 120    | 17532p644    | 17:53 | +64:11 | 43  | 5m  |   |
| 121    | COMP         |       |        | ↑   |     |   |
| 122    | 17514p6228   | 17:51 | +62:28 | 43  | 41m |   |
| 123    | COMP         |       |        | ↑   |     |   |
| 124    | 17515p6057   | 17:51 | +60:57 | 43  | 6m  | binby 2; close to E                         |
| 125    | COMP         |       |        | ↑   |     |   |
| 126    | 18130 p 6330 | 18:13 | +63:30 | 43  | 5m  | * to E                                      |

60 inch Telescope Log

Observer: PB

PI: Greller

Spectrograph: FAST

Grating: 10/28/97

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Date: 3W2, 3" slit

| Number | Object     | R. A. | Dec.   | L/R | Exp | Comments                     |
|--------|------------|-------|--------|-----|-----|------------------------------|
| 127    | COMP       |       |        | ↑   |     |                              |
| 128    | NGC 17     | 18:13 | +61:18 | 43  | 10m | em; extended em              |
| 129    | COMP       |       |        | ↑   |     |                              |
| 130    | S80.008563 | 22:30 | +04:01 | 55  | 10m | em                           |
| 131    | COMP       |       |        | ↑   |     |                              |
| 132    | S80.01700  | 22:30 | +05:44 | 55  | 9m  | em                           |
| 133    | COMP       |       |        | ↑   |     |                              |
| 134    | S80.05001  | 22:35 | +06:07 | 55  | 8m  |                              |
| 135    | COMP       |       |        | ↑   |     |                              |
| 136    | S80.056258 | 22:43 | +06:07 | 55  | 7m  |                              |
| 137    | COMP       |       |        | ↑   |     |                              |
| 138    | S80.064178 | 22:38 | +06:28 | 55  | 8m  |                              |
| 139    | COMP       |       |        | ↑   |     |                              |
| 140    | S80.069877 | 22:38 | +06:43 | 55  | 7m  |                              |
| 141    | COMP       |       |        | ↑   |     |                              |
| 142    | S80.071390 | 22:42 | +07:07 | 55  | 5m  |                              |
| 143    | COMP       |       |        | ↑   |     |                              |
| 144    | S80.083215 | 22:40 | +07:18 | 55  | 8m  |                              |
| 145    | COMP       |       |        | ↑   |     | cool views of saturn         |
| 146    | S80.087361 | 22:20 | +07:28 | 55  | 9m  | +Jupiter through Jaki's 8" s |
| 147    | COMP       |       |        | ↑   |     |                              |
| 148    | S80.096331 | 22:24 | +07:53 | 55  | 8m  |                              |
| 149    | COMP       |       |        | ↑   |     |                              |
| 150    | S80.105213 | 22:24 | +08:17 | 55  | 6m  |                              |
| 151    | COMP       |       |        | ↑   |     |                              |
| 152    | S80.098587 | 22:41 | +07:54 | 55  | 8m  |                              |
| 153    | COMP       |       |        | ↑   |     |                              |
| 154    | S80.106525 | 22:32 | +08:21 | 55  | 8m  | em!                          |
| 155    | COMP       |       |        | ↑   |     |                              |
| 156    | S80.110020 | 22:28 | +08:31 | 55  | 10m |                              |

| 60 inch Telescope Log            |               |       | Spectrograph: <u>FAST</u> |     | Page: <u>5718</u> |                            |
|----------------------------------|---------------|-------|---------------------------|-----|-------------------|----------------------------|
| Observer: <u>PB</u>              |               |       | Grating: <u>3020</u>      |     |                   |                            |
| PI: <u>Geller, Gregory, Andi</u> |               |       | Date: <u>10/28/97</u>     |     |                   |                            |
| Number                           | Object        | R.A.  | Dec.                      | L/R | Exp               | Comments                   |
| 157                              | COMP          |       |                           | ↑   |                   |                            |
| 158                              | S80.116886    | 22:24 | +08:33                    | SS  | 9m                |                            |
| 159                              | COMP          |       |                           | ↑   |                   |                            |
| 160                              | S80.125468    | 22:43 | +06:13                    | SS  | 6m                |                            |
| 161                              | COMP          |       |                           | ↑   |                   |                            |
| 162                              | S80.131255    | 22:40 | +09:30                    | SS  | 8m                |                            |
| 163                              | COMP          |       |                           | ↑   |                   |                            |
| 164                              | Z3080 p075204 | 23:08 | +07:58                    | 42  | 6m                | em                         |
| 165                              | COMP          |       |                           | ↑   |                   |                            |
| 166                              | Z3080 p075205 | 23:08 | +07:51                    | 42  | 8m                |                            |
| 167                              | COMP          |       |                           | ↑   |                   |                            |
| 168                              | Z3102 p102841 | 23:10 | +10:26                    | 42  | 5m                |                            |
| 169                              | COMP          |       |                           | ↑   |                   |                            |
| 170                              | N7102F2       | 23:11 | +02:10                    | 42  | 5m                |                            |
| 171                              | COMP          |       |                           | ↑   |                   |                            |
| 172                              | Z3142 p083704 | 23:13 | +08:38                    | 42  | 3 <sup>+</sup> m  |                            |
| 173                              | COMP          |       |                           | ↑   |                   |                            |
| 174                              | N7601F1       | 23:16 | +09:00                    | 42  | 3m                |                            |
| 175                              | COMP          |       |                           | ↑   |                   |                            |
| 176                              | E1483FS       | 23:20 | +11:10                    | 42  | 9m                | em                         |
| 177                              | COMP          |       |                           | ↑   |                   |                            |
| 178                              | N7641C2       | 23:20 | +11:44                    | 42  | 5m                |                            |
| 179                              | COMP          |       |                           | ↑   |                   |                            |
| 180-1                            | ZAnd          | 23:33 | +48:49                    | 12  | 0.5, 10s          |                            |
| 182                              | COMP          |       |                           | ↑   |                   |                            |
| 183-4                            | AXPer         | 01:36 | +54:15                    | 12  | 3s, 70s           |                            |
| 185                              | COMP          |       |                           | ↑   |                   |                            |
| 186                              | Srg b062.01   | 00:11 | +28:29                    | 59  | 5m                |                            |
| 187                              | COMP          |       |                           | ↑   |                   |                            |
| 188                              | .02           | 00:12 | +29:19                    | 59  | 5m                | fair integral ins lit told |

| 60 inch Telescope Log |             |       |        | Spectrograph: <u>FAST</u> |     |                  |
|-----------------------|-------------|-------|--------|---------------------------|-----|------------------|
| Observer: <u>PB</u>   |             |       |        | Grating: <u>300</u>       |     | Page: <u>579</u> |
| PI: <u>Mahdavi</u>    |             |       |        | Date: <u>10/28/97</u>     |     |                  |
| Number                | Object      | R.A.  | Dec.   | L/R                       | Exp | Comments         |
| 189                   | COMP        |       |        | ↑                         |     |                  |
| 190                   | src b062.03 | 00:12 | +29:52 | S9                        | 4m  |                  |
| 191                   | COMP        |       |        | ↑                         |     |                  |
| 192                   | .04         | 00:12 | +29:52 | S9                        | 10m | em               |
| 193                   | COMP        |       |        | ↑                         |     |                  |
| 194                   | .05         | 00:12 | +30:06 | S9                        | 8m  | em               |
| 195                   | COMP        |       |        | ↑                         |     |                  |
| 196                   | .06         | 00:12 | +29:22 | S9                        | 8m  | em               |
| 197                   | COMP        |       |        | ↑                         |     |                  |
| 198                   | .07         | 00:13 | +30:11 | S9                        | 4m  |                  |
| 199                   | COMP        |       |        | ↑                         |     |                  |
| 200                   | .08         | 00:13 | +31:08 | S9                        | 2m  |                  |
| 201                   | COMP        |       |        | ↑                         |     |                  |
| 202                   | .09         | 00:13 | +28:45 | S9                        | 8m  | em               |
| 203                   | COMP        |       |        | ↑                         |     |                  |
| 204                   | .11         | 00:14 | +24:25 | S9                        | 5m  | em+              |
| 205                   | COMP        |       |        | ↑                         |     |                  |
| 206                   | .14         | 00:14 | +31:06 | S9                        | 5m  |                  |
| 207                   | COMP        |       |        | ↑                         |     |                  |
| 208                   | .15         | 00:15 | +28:52 | S9                        | 8m  |                  |
| 209                   | COMP        |       |        | ↑                         |     |                  |
| 210                   | .18         | 00:15 | +29:24 | S9                        | 3m  |                  |
| 211                   | COMP        |       |        | ↑                         |     |                  |
| 212                   | .19         | 00:15 | +29:39 | S9                        | 9m  |                  |
| 213                   | COMP        |       |        | ↑                         |     |                  |
| 214                   | .21         | 00:15 | +29:38 | S9                        | 9m  |                  |
| 215                   | COMP        |       |        | ↑                         |     |                  |
| 216                   | .22         | 00:15 | +29:43 | S9                        | 6m  |                  |
| 217                   | COMP        |       |        | ↑                         |     |                  |
| 218                   | .24         | 00:15 | +29:39 | S9                        | 2m  |                  |

60 inch Telescope Log

Observer: PB  
 PI: Andi Huchra & Kirchner

Spectrograph: FAST  
 Grating: 20R  
 Date: 10/28/97

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| Number   | Object             | R.A.  | Dec.   | L/R | Exp | Comments                        |
|----------|--------------------|-------|--------|-----|-----|---------------------------------|
| 219      | COMP               |       |        | r   |     |                                 |
| 220      | src 6155-34        | 02:48 | -01:58 | S9  | 9m  | em                              |
| 221      | COMP               |       |        | r   |     |                                 |
| 222      | src 6155-35        | 02:49 | -01:54 | S9  | 12m | extend em pic 2125              |
| 223      | COMP               |       |        | r   |     |                                 |
| 224      | src 6155-36        | 02:49 | -01:46 | S9  | 10m |                                 |
| 225      | COMP               |       |        | r   |     |                                 |
| 226      | src 6155-40        | 02:49 | -01:43 | S9  | 8m  | em                              |
| 227      | COMP               |       |        | r   |     |                                 |
| 228      | src 6155-43        | 02:49 | -01:31 | S9  | 5m  | em                              |
| 229      | COMP               |       |        | r   |     |                                 |
| 230      | src 6155-44        | 02:49 | -01:47 | S9  | 5m  |                                 |
| 231      | COMP               |       |        | r   |     |                                 |
| 232      | src 6155-45        | 02:49 | -01:00 | S9  | 7m  |                                 |
| 233      | COMP               |       |        | r   |     |                                 |
| 234      | APSO 97            | 03:07 | +02:55 | 43  | 10m | em                              |
| 235      | COMP               |       |        | r   |     |                                 |
| 236      | APSO 98            | 03:10 | +21:09 | 43  | 12m |                                 |
| 237      | COMP               |       |        | r   |     |                                 |
| 238      | APSO 99            | 03:08 | +20:51 | 43  | 12m |                                 |
| 239      | COMP               |       |        | r   |     |                                 |
| 240      | APSO 71            | 03:59 | +28:46 | 43  | 10m |                                 |
| 241      | COMP               |       |        | r   |     |                                 |
| 242      | APSO 67            | 03:57 | +28:56 | 43  | 15m |                                 |
| 243      | COMP               |       |        | r   |     |                                 |
| 244      | APSO 66            | 03:28 | +21:01 | 43  | 6m  |                                 |
| 245      | COMP               |       |        | r   |     |                                 |
| 246, 248 | SN. PG 21821. cand | 07:47 | +62:19 | 2   | 20m | em by 2 mag = 18+ - faint       |
| 247, 249 | COMP               |       |        | r   |     | also has em<br>type II near max |

60 inch Telescope Log

Observer: PB  
 PI: All

Spectrograph: FAST

Grating: 302

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Date: 10/28/97

| Number  | Object        | R. A. | Dec.   | L/R | Exp      | Comments   |
|---------|---------------|-------|--------|-----|----------|--|
| 250     | COSY7p23      | 05:47 | +23:51 | 43  | 7m       | young * + nebulosity <sup>and</sup> <sub>file</sub> <sup>probe</sup><br>sup *? → yes p<br>→ this is a planetary nebula!!<br>⇒ T-Tauri star instead |
| 251     | COSY7p23.star | "     | "      | 43  | 2m       |  |
| 252     | COMP          |       |        | ↑   |          |  |
| 253-254 | DC Tau        | 04:27 | +26:06 | 12  | 90s, 10s |  |
| 255     | COMP          |       |        | ↑   |          |  |
| 257     | DL Tau        | 04:33 | +25:10 | 12  | 2m, 10s  |  |
| 258     | COMP          |       |        | ↑   |          |  |
| 259-60  | DR Tau        | 04:49 | +16:56 | 12  | 90s, 10s |  |
| 261     | COMP          |       |        | ↑   |          |  |
| 262-63  | Hiltner 60    | 06:42 | +02    | 56  | 40s      |  |
| 264     | COMP          |       |        | ↑   |          |  |
| 265-267 | HDS0896       | 06:54 | -23:55 | 57  | 2s       |  |
| 268     | COMP          |       |        | ↑   |          |  |
| 269-71  | HDS0836       | 06:53 | -04:34 | 57  | 2s       |  |
| 272     | COMP          |       |        | ↑   |          |  |
| 273-278 | HDS0751       | 06:52 | -05:11 | 57  | 2s       | clear @ dawn!  |
| 279     | COMP          |       |        | ↑   |          |  |
| 280-283 | HD49247       | 06:47 | +10:40 | 57  | 2s       |  |
| 284     | COMP          |       |        | ↑   |          |  |
| 285-287 | HDS2971       | 06:57 | +27:13 | 57  | 5s       |  |
| 288     | COMP          |       |        | ↑   |          |  |
| 289-298 | BIAS          |       |        | 0   | 0s       |  |
| 299-308 | FLAT          |       |        | 0   | 6s       |  |
| 309-318 | BIAS          |       |        | 0   | 0s       | bin by 2   |
| 319-328 | FLAT          |       |        | 0   | 12s      | bin by 2   |
| 329-333 | DARK          |       |        | 2   | 20m      | bin by 2   |