# Newell *et al.* - 1969

Narrow-band system. Horizontal-branch stars.

## GENERAL INFORMATION

| | |
|---|---|
| AUTHORS | E. B. Newell, A. W. Rodgers, and L. Searle |
| TELESCOPE | 0.41m and 1.02m, Siding Spring Observatory |
| DETECTOR | 1P21 (refrigerated) |
| MAIN ARTICLE | Newell, E. B., Rodgers, A. W., Searle, L. 1969, ApJ 156, 597 |

## SYSTEM DESCRIPTION

BANDS DESCRIPTION[229]

| band | interference filter manufacturer | $\lambda_{eff}$ (Å) | FWHM (Å) | $\Upsilon_{peak}$ (%) |
|---|---|---|---|---|
| *354* [229] | Thin Film Products | 3535 | 78 | 43 |
| *427* [229] | Thin Film Products | 4272 | 84 | 68 |
| *531* [229] | Thin Film Products | 5305 | 155 | 40 |
| *Hγ* [228] | | 4348 | 50 | 53 |

Additional observations in the *UBV* bands of *UBV - Johnson and Morgan - 1953* system have been obtained with the following filters: 2mm Corning 9863 (*U*), 3mm Corning 5030 + 2mm Schott 6613 (*B*), 2mm Corning 3384 (*V*).

## SYSTEM ANALYSIS

### COLOR INDICES AND PARAMETERS [228]

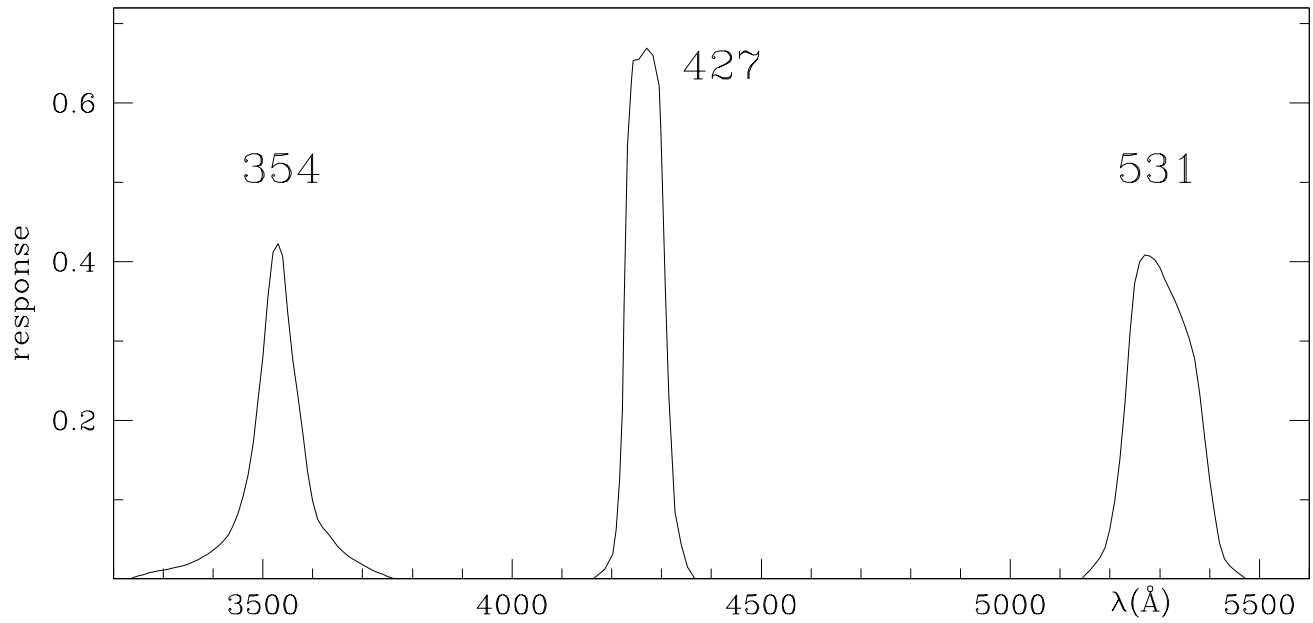
$353 - 427$ : measures the Balmer discontinuity.

$427 - 531$ : measures the continuum.

$\gamma = 427 - 0.074(427 - 531) - H\gamma$ : measures Hγ.

## TRANSMISSION CURVES

As derived from Fig 4 of [228].




| *354* | | | | *427* | | | | *531* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| λ (Å) | ϒ | λ (Å) | ϒ | λ (Å) | ϒ | λ (Å) | ϒ | λ (Å) | ϒ | λ (Å) | ϒ |
| 3230 | 0.000 | 3530 | 0.423 | 4161 | 0.000 | 4282 | 0.660 | 5143 | 0.000 | 5334 | 0.346 |
| 3269 | 0.008 | 3543 | 0.393 | 4187 | 0.013 | 4295 | 0.622 | 5168 | 0.018 | 5353 | 0.314 |
| 3309 | 0.013 | 3549 | 0.342 | 4202 | 0.031 | 4299 | 0.565 | 5184 | 0.031 | 5372 | 0.270 |
| 3348 | 0.019 | 3568 | 0.239 | 4210 | 0.063 | 4301 | 0.515 | 5200 | 0.063 | 5385 | 0.207 |
| 3388 | 0.031 | 3587 | 0.148 | 4216 | 0.126 | 4308 | 0.364 | 5215 | 0.126 | 5398 | 0.135 |
| 3422 | 0.049 | 3606 | 0.082 | 4221 | 0.214 | 4314 | 0.232 | 5226 | 0.188 | 5410 | 0.079 |
| 3437 | 0.063 | 3623 | 0.063 | 4225 | 0.346 | 4327 | 0.085 | 5232 | 0.239 | 5423 | 0.038 |
| 3460 | 0.104 | 3651 | 0.041 | 4231 | 0.547 | 4340 | 0.044 | 5238 | 0.298 | 5442 | 0.016 |
| 3479 | 0.166 | 3689 | 0.022 | 4240 | 0.628 | 4352 | 0.016 | 5251 | 0.377 | 5474 | 0.000 |
| 3492 | 0.232 | 3728 | 0.009 | 4243 | 0.653 | 4368 | 0.000 | 5273 | 0.408 | | |
| 3505 | 0.311 | 3766 | 0.000 | 4254 | 0.655 | | | 5302 | 0.390 | | |
| 3515 | 0.390 | | | 4271 | 0.669 | | | 5311 | 0.377 | | |