PERIODS FOR THREE VARIABLES IN CYGNUS

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Abstract

Periods have been determined for V540 Cygni, V838 Cygni and S4713.

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Three variables in Cygnus discovered by Beljawska (1936) have been examined on the available plates at the Maria Mitchell Observatory, spanning more than 50 years. No periods had previously been determined for these stars.

TABLE I

<table>
<thead>
<tr>
<th>Star</th>
<th>Type</th>
<th>JDs</th>
<th>Period</th>
<th>Max.</th>
<th>Min.</th>
<th>Obs.</th>
<th>JD Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V540 Cyg M</td>
<td>2,443,250</td>
<td>361</td>
<td>12.4</td>
<td>14.8</td>
<td>750</td>
<td>2,424,684-2,443,670</td>
<td></td>
</tr>
<tr>
<td>V838 Cyg RK</td>
<td>2,443,365.791</td>
<td>0.6802795</td>
<td>13.3</td>
<td>14.6</td>
<td>600</td>
<td>2,426,604-2,443,421</td>
<td></td>
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<tr>
<td>S4713 SE</td>
<td>2,443,380</td>
<td>187.5</td>
<td>13.9</td>
<td>14.8</td>
<td>600</td>
<td>2,424,684-2,443,703</td>
<td></td>
</tr>
</tbody>
</table>

For V838 Cyg the inverse period used to compute the phases was 2.082121. Figure 1 clearly shows its rapidly ascending branch and its slower descending branch with a magnitude range of 1.2 magnitudes, characteristic of a typical RR Lyrae star.

![Phase Plot](image)

Figure 1. Observations of V838 Cyg plotted against phases computed from the reciprocal period 2.082121(days⁻¹). Abscissa markers are at intervals of 0.2 period.

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REFERENCE