

EVOLUTIONARY CHANGES IN LUMINOUS STARS

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The light curves of luminous stars often show spectacular secular changes which can be connected to stellar evolution. Such events are, e.g. the outbursts of P Cygni in the 17th century and η Carinae in the last century. Both stars belong to the Luminous Blue Variables, but these changes are not restricted to blue stars. The light curve of HR 8752 (V509 Cassiopeiae) shows a certain similarity to that of the former two stars. When it was first catalogued in the middle of the 19th century, it had been a 6^m star. During 100 years the star showed a secular brightening of 1^m. A similar yellow hypergiant, ρ Cassiopeiae produced at least two outbursts this century, though both have smaller amplitudes than it is in the case of the LBVs. Moreover, these yellow variables also have an apparently secular colour change: the $B - V$ colour of HR 8752 is decreasing while that of ρ Cassiopeiae is increasing. In both cases evolutionary changes are possible but one cannot exclude other causes.

Besides these well studied stars there are several other yellow hypergiants with promising light curves. One of the most interesting cases seems to be R Puppis, which was discovered to be variable in the last century, but then did not show any appreciable change in the following 70–80 years. In the late 1970s, however, it began to vary once more.