Taking a Supergiant's Temperature Tom Calderwood

The Great Dimming of Betelgeuse is typically ascribed either to dust obscuring our view of the star, or to a drop in temperature causing the star to emit less light to begin with. A year after the event, professional astronomers are still wrestling with these options and even proposing combinations of the two.

The temperature of a late K or early M star is usually inferred from titanium oxide absorption features. This can be done via spectroscopy or narrow-band photometry, the latter method being within the reach of amateurs. These techniques will be explained, and the assorted and sometimes contradictory results for Betelgeuse will be reviewed.

The AAVSO Photoelectric Photometry Section is starting to experiment with the narrow-band method and it is hoped that we may contribute to the understanding of Red Supergiant physics–a topic of active research interest.