## light echoes of N-Carinae

federica b. bianco





















































































# Luminous Blue Variables

## Luminous Blue Variables

LBVs, also known as S Dor-like variables, or \(\begin{aligned} \begin{aligned} \text{-Car-like variables,} \\ \text{a diverse group of hot luminous stars that are photometrically and spectroscopically variable.} \end{aligned}

### luminosity:

- $M_{bol} \sim -11$  to -8
- near Eddington limit

# Luminous Blue Variables

Eddington luminosity: maximum luminosity where radiation force balances

gravitational force

### luminosity:

•  $M_{bol} \sim -11$  to -8

• near Eddington limit

$$L_{\rm Edd} = \frac{4\pi G M m_{\rm p} c}{\sigma_{\rm T}}$$

radiation gravity

star in hydrostatic equilibrium

$$L_{\rm Edd} \sim L_{\rm Edd} (M,T)$$

 $\frac{m_p}{\sigma_T}$  is the opacity of the stellar material  $\sigma_T$