

① Flujo intrínseco de la estrella Vega A0 V

$$m_{\odot} - m_{\text{vega}} = 2.5 \log \frac{f_{\text{vega}}}{f_{\odot}} \quad \text{--- (1)}$$

$$m_{\odot} - m_{\text{vega}} = 2.5 \log f_{\text{vega}} - 2.5 \log f_{\odot}^{(\text{tierra})} \quad \text{--- (2)}$$

Sabemos que $m_v(\text{sol}) = -26.74$

$$m_B - m_v(\text{vega}) = 0.0$$

$$m_u - m_B(\text{vega}) = 0.0$$

$$\therefore m_v(\text{vega}) = 0.0? \quad \text{--- (3)}$$

Allen, 1973
Astrophysical
Quantities

$$\left\{ \begin{array}{l} M_v = +0.5 \quad \text{--- (4)} \\ d = 8.1 \text{ pc} \\ f_{\odot} = 6.27 \times 10^{10} \text{ erg/cm}^2/\text{s} \end{array} \right.$$

$$f_{\odot} = 1.36 \times 10^6 \text{ erg/cm}^2/\text{s} \text{ (en Tierra)} \quad \text{--- (5)}$$

$$m_v = M_v + 5 \log D_{\text{pc}} \quad \text{--- (6)}$$

$$= +0.5 + 5 \log(8.1) \quad \text{--- (7)}$$

$$= +0.5 + 4.54 \quad \text{--- (8)}$$

$$m_v = 0.04 \quad \text{--- (9)}$$

De (2) $2.5 \log f_{\text{vega}} = m_{\odot} - m_{\text{vega}} + 2.5 \log f_{\odot} \quad \text{--- (9)}$

Substituyendo: $= -26.74 - (0.04) + 2.5 \log f_{\odot} \quad \text{--- (10)}$

$$2.5 \log f_{\text{vega}} = \cancel{0.231} - 11.446 \quad \text{--- (11)}$$

$$\log f_{\text{vega}} = -4.578 \quad \text{--- (12a)}$$

$$f_{\text{vega}}(\text{Tierra}) = 2.64 \times 10^{-5} \frac{\text{erg}}{\text{cm}^2 \cdot \text{s}} \quad \text{--- (12b)}$$

$$f_{\text{vega}}(\text{intrínseco}) = \left(\frac{D_v}{R_{\text{vega}}} \right)^2 f_{\text{vega}}(\text{Tierra}) \quad \text{--- (13)}$$

(2)

$$R_{\text{vega}} = 2.7 R_{\odot} \quad \text{wikipedia}$$

$$f_{\text{vega}}(\text{intrínseco}) = \left\{ \frac{8.1 \times 3.08 \times 10^{18} \text{ cm}}{2.7 \times 6.96 \times 10^{10} \text{ cm}} \right\}^2 f_{\text{vega}}(\text{Tierra}) \quad (14)$$

$$f_{\text{vega}}(\text{intrínseco}) = 5.04 \times 10^{11} \frac{\text{ergs}}{\text{cm}^2 \text{ s}} \quad \text{--- (15)}$$

$$\sigma T_{\text{vega}}^4 = f_{\text{vega}}(\text{intrínseco}) \quad \text{--- (16)}$$

$$T_{\text{vega}} = \left(\frac{5.04 \times 10^{11}}{5.67 \times 10^{-5}} \right)^{1/4}$$

$$T_{\text{vega}} \simeq 9712^\circ \text{K}$$
$$\log T_{\text{vega}} = 3.987$$

$$A \text{ } \emptyset \text{ } V \Rightarrow \log T = 3.96$$

$$T \simeq 9120^\circ \text{K}$$

Concuerda
en términos
generales!!