

DAFTAR PUSTAKA

- [1] Yamani, A. R, dan Siregar S. “Periode-Luminositas Cepheid dan Koreksi Bolometrik Bintang Deret Utama, Metodologi dan Hasil”. *Jurnal Sains Dirgantara*, vol.3, no.2, 2006.
- [2] Tanvir, N. R. dkk. “*Determination of Cepheid parameters by light curve template fitting*”. *Monthly Notices of the Royal Astronomy Society*, vol. 363, no. 3, 2005.
- [3] Scrowcroft, V. dkk. “*The Effect of metallicity on Cepheid magnitudes and the distance to M33*”. *Monthly Notices of the Royal Astronomy Society*, vol. 396, no. 3, 2009.
- [4] NASA Extragalactic Database. A Band See Fraunhofer Lines. Diakses dari <https://ned.ipac.caltech.edu/>, 19 Mei 2020.
- [5] Paxton, B. “*Modules for Experiments in Stellar Astrophysics (MESA): Convectives Boundaries, Element Difusion, and Massive Star Explosions*”. *The Astrophysical Journal Suplement Series*, vol. 192, no. 1, hal. 1-64, 2018.
- [6] Eggleton, P. “*The Evolution of Low Mass Stars*”. vol.151, hal. 351-364, 1971.
- [7] Hirschi, R. dkk. “*Stellar Evolution at Low Metallicity*”. *Proceedings IAU Symposium*, no. 250, hal. 217-230, 2008.
- [8] Gautama, S. E. *Astronomi dan Astrofisika Revisi 3*. Makassar, 2010.
- [9] Degl’Innocenti, Scilla. “*Introduction to stellar evolution*”. *Journal of Physics*, no. 703, hal. 3-8, 2016
- [10] Sutantyo, W. *Pengantar Astrofisika Bintang-bintang di Alam Semesta*. Penerbit ITB, Bandung, 2010.
- [11] Sutantyo, W. *Astrofisika Mengenal Bintang*. Penerbit ITB, Bandung, 1984.
- [12] Khoiriyah, K. “Evolusi Bintang Pada Pembentukan Tata Surya dan Keplanetan”. *Jurnal Ilmiah Pendidikan Fisika Al-BiRuNi*, vol. 5, no. 2, hal. 245-256, 2016.
- [13] Ramadhan, F., Priyatikanto, R., dan Utama, J. A. “Fotometri Gusus Bintang Terbuka M67 (NGC 2682)”. *Spectra : Jurnal Fisika dan Aplikasinya*, vol. 16, no. 2, hal. 10-14, 2015

- [14] Gough D.O. “*Solar Interior Structure and Luminosity Variations*”. *Physics of Solar Variation*, hal. 21-34, Scheveningen, 16-19 September 1980.
- [15] Arnould, M. dan Takahashi, K. “*Nuclear Astrophysics*”. *Report on Progress in Physics*, vol. 62, no. 3, hal. 1-84, 1999.
- [16] American Association of Variable Star Observers. Variables: What Are They and Why Observe Them. Diakses dari <https://www.aavso.org/>, 19 Mei 2020.
- [17] Anderson, R. I. dkk. “*On the Effect of Rotation on Populations of Classical Cepheids II. Pulsation Analysis for Metallicities 0.014, 0.006, and 0.002*”. *Astronomy and Astrophysics*, vol. 591, no. A8, 2016.
- [18] Natale, G., Marconi, M., dan Bono, G. “*Theoretical Fits of the δ Cephei Light, Radius, and Radial Velocity Curves*”, *The Astrophysics Journal*, vol.674, no.L93, 2008.
- [19] Usenko, I. A. dkk. “*Polaris, the Nearest Cepheid in the Galaxy: Atmosphere Parameters, Reddening and Chemical Composition*”. *Monthly Notices of the Royal Astronomical Society*, vol. 362, no. 4, hal. 1219-1224, 2005.
- [20] Taylor, M.M. dan Booth, A.J. “*The Bright Southern Cepheid β Doradus: the Radial Velocity Curve, Distance and Size*”. *Monthly Notices of the Royal Astronomical Society*, vol.298, no. 2, hal. 594-600, 2002.
- [21] Marengo, M, Evans, N.R. dkk. “*An Infrared P g d w n c " C u u q e k c v g f " Cephei: Evidence of Mass Loss?*”. *The Astrophysical Journal*, hal. 2392–2400, no. 725, 2010.
- [22] Chandra X-Ray Observatory. Pulsating Variable Stars and the Hertzprung-Russell Diagram. Diakses dari <https://chandra.harvard.edu>, 19 Mei 2020.
- [23] Rich Townsend. *EZ-Web*. Diakses dari <http://www.astro.wisc.edu/~townsend/static.php?ref=ez-web>, 10 Oktober 2019.
- [24] Setiawati, W. K, Haeruddin, dan Islamiyah. “Analisis Perbandingan Penentuan Titik Koordinat Permukiman Penduduk Menggunakan Metode Interpolasi Linear dengan Aplikasi Google Maps dan GPS Satellites Viewer”. *Prosiding Seminar Nasional Ilmu Komputer dan Teknologi Informasi*, hal.104-109, Samarinda, September 2017.

- [25] Young, Donna. “*Pulsating Variable Stars and The Hertzprung-Russel Diagram*”. *The Astrophysics Journal*, vol.673, hal. 20-26, 2012.
- [26] Smith, D. H. “*G f f k p i v q p φ u " X c n x g " "c pSkf "andE g r j g k f ' Telescope*”, vol. 68, no.2, hal. 519, 2002.
- [27] Kippenhahn, R. dkk. *Stellar Structure and Evolution Second Edition*. Astronomy and Astrophysics Library, Garching, 2012.

LAMPIRAN

Lampiran 1 Keterangan data *summary*

Nomor Kolom	Datum	Keterangan
1	I	Step number
2	T	Age (years)
3	M	Mass (M_\odot)
4	$\log_{10} N$	Luminosity (L_\odot)
5	$\log_{10} T$	Radius (R_\odot)
6	$\log_{10} V_u$	Surface temperature (K)
7	$\log_{10} V_e$	Central temperature (K)
8	$\log_{10} \rho_e$	Central density (Kg m^{-3})
9	$\log_{10} P_e$	Central pressure (N m^{-2})
10	Ψ_c	Central electron degeneracy parameter
11	X_c	Central hydrogen mass fraction
12	Y_c	Central helium mass fraction
13	$X_{C,c}$	Central carbon mass fraction
14	$X_{N,c}$	Central nitrogen mass fraction
15	$X_{O,c}$	Central oxygen mass fraction
16	T_{dyn}	Dynamical timescale (second)
17	T_{KH}	Kelvin-Helmholtz timescale (years)
18	T_{nuc}	Nuclear timescale (years)
19	L_{PP}	Luminosity from PP chain (L_\odot)
20	L_{CNO}	Luminosity from CNO cycle (L_\odot)
21	L_{3a}	Luminosity from triple-alpha reactions (L_\odot)
22	L_Z	Luminosity from metal burning (L_\odot)
23	L_V	Luminosity of neutrino losses (L_\odot)
24	M_{He}	Mass of helium core (M_\odot)
25	M_C	Mass of carbon core (M_\odot)
26	M_O	Mass of oxygen core (M_\odot)
27	R_{He}	Radius of helium core (R_\odot)
28	R_C	Radius of carbon core (R_\odot)
29	R_O	Radius of oxygen core (R_\odot)

Lampiran 2 Keterangan data structure

Nomor kolumn	Datum	Keterangan
1	M_r	Lagrangian mass coordinat (M_\odot)
2	R	Radius coordinate (R_\odot)
3	L_r	Luminosity (L_\odot)
4	P	Total pressure ($N m^{-2}$)
5	ρ	Density ($kg m^{-3}$)
6	T	Temperature (K)
7	U	Specific internal energy ($J kg^{-1}$)
8	S	Specific entropy ($J K^{-1} kg^{-1}$)
9	C_p	Specific heat at constant pressure ($J K^{-1} kg^{-1}$)
10	r_1	First adiabatic component
11	∇_{ad}	Adiabatic temperature gradient
12	μ	Mean moleculer weight
13	n_e	Electron number density (m^{-3})
14	P_e	Electron pressure ($N m^{-2}$)
15	P_r	Radiation pressure ($N m^{-2}$)
16	∇_{rad}	Radiative temperature gradient
17	∇	Material temperature gradient
18	v_c	Convective velocity ($m s^{-1}$)
19	K	Rosseland mean opacity ($m^2 kg^{-1}$)
20	ε_{nuc}	Power per unit mass from all nuclear reactions, excluding neutrino losses ($W kg^{-1}$)
21	ε_{PP}	Power per unit mass from PP chain ($W kg^{-1}$)
22	ε_{CNO}	Power per unit mass from CNO cycle ($W kg^{-1}$)
23	$\varepsilon_{3\alpha}$	Power per unit mass from triple-alpha reaction ($W kg^{-1}$)
24	$\varepsilon_{\nu,nuc}$	Power loss per unit mass in nuclear neutrinos ($W kg^{-1}$)
25	ε_ν	Power loss per unit mass in non-nuclear neutrinos ($W kg^{-1}$)
26	ε_{grav}	Power per unit mass from gravitational contraction ($W kg^{-1}$)
27	X	Hidrogen mass fraction
28	—	Moleculer hidrogen mass fraction(all ionization stages)
29	X^+	Singly-ionized hidrogen mass fraction
30	Y	Helium mass fraction (all ionization stages)
31	Y^+	Singly-ionized helium mass fraction
32	Y^{++}	Doubly-ionized helium mass fraction
33	X_C	Carbon mass fraction
34	X_N	Nitrogen mass fraction
35	X_O	Oxygen mass fraction
36	Ψ	Electron degeneracy parameter