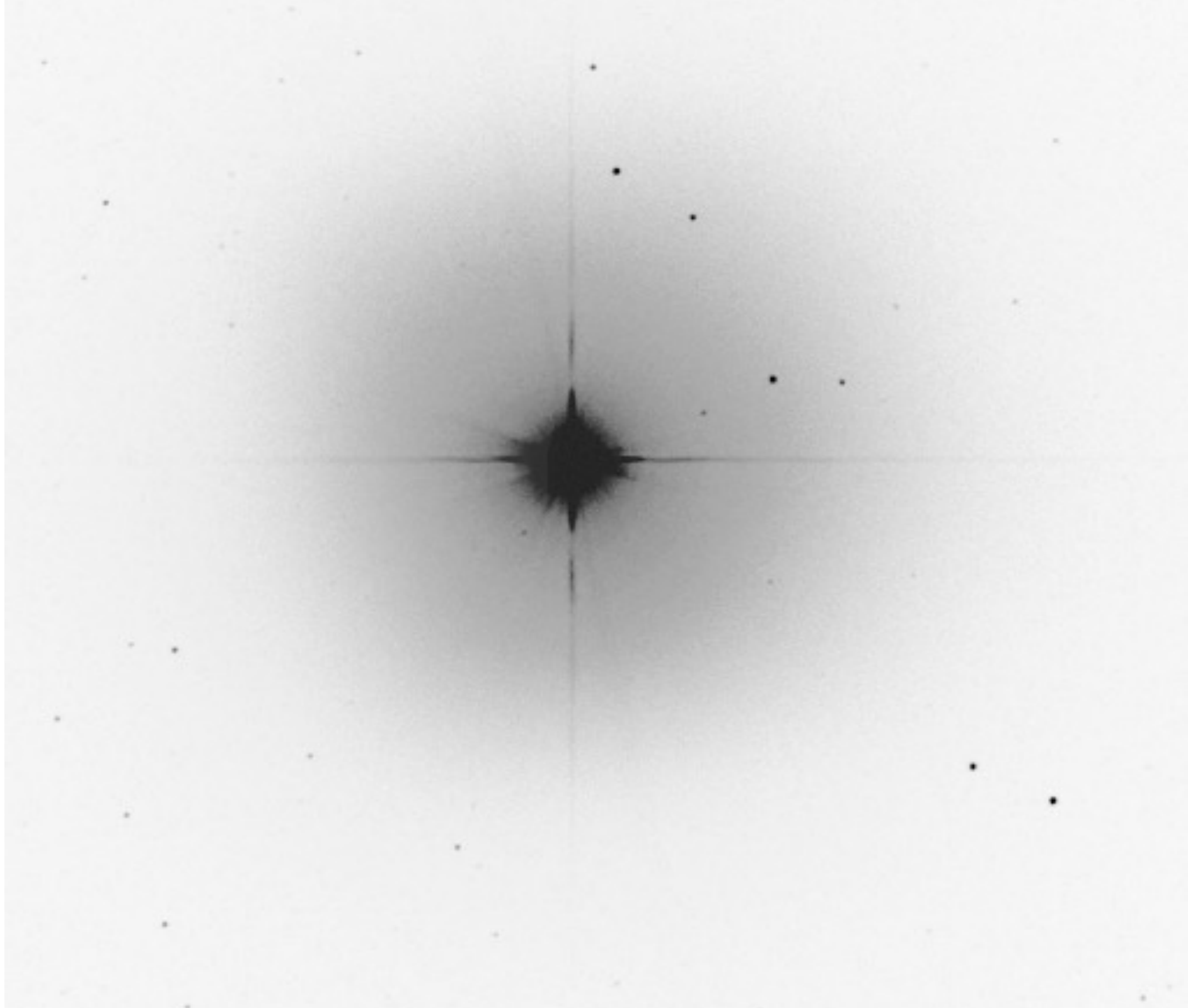
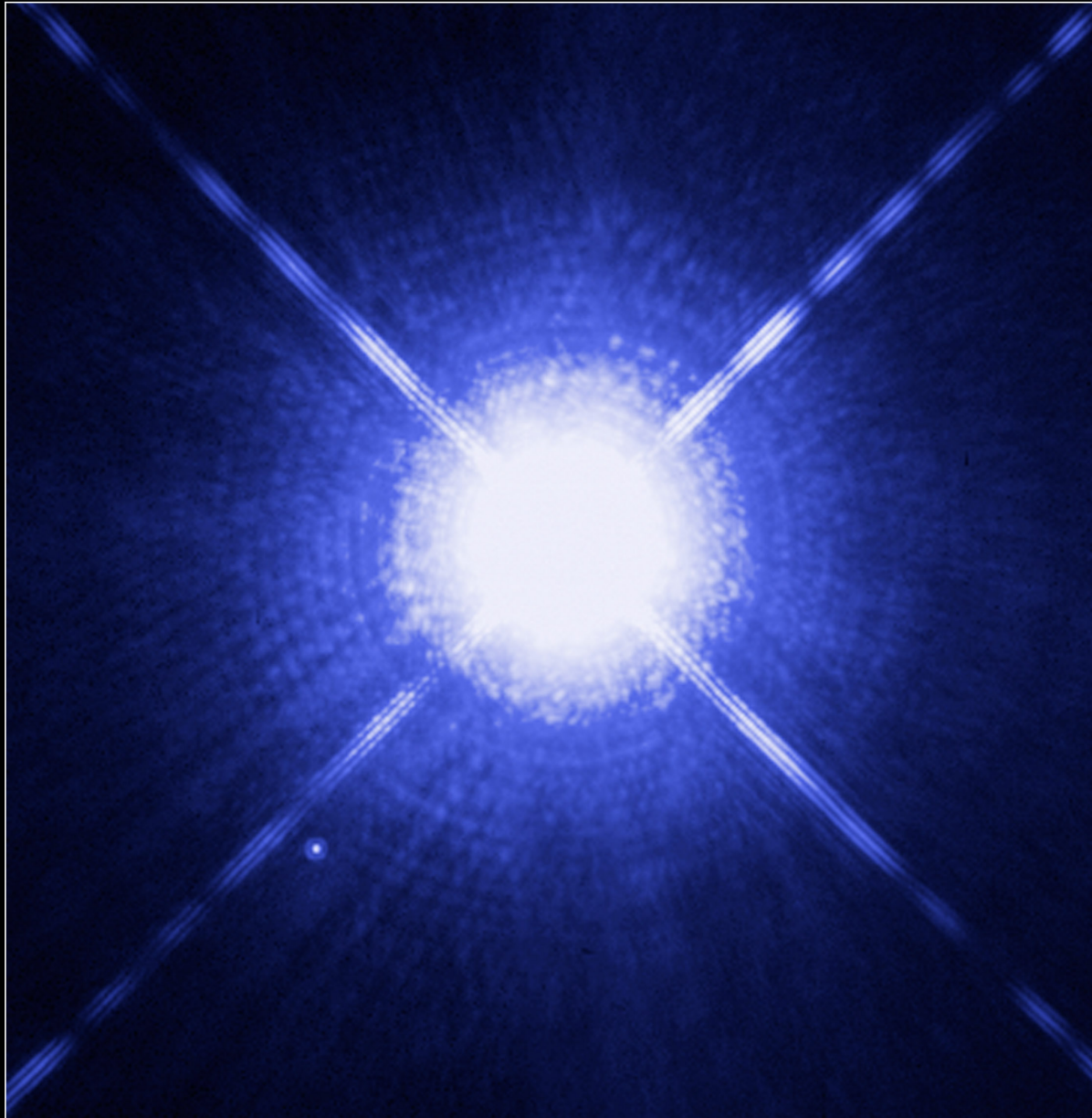


Structure and Evolution of Stars



Lecture 14





Sirius A and Sirius B
Hubble Space Telescope • WFPC2

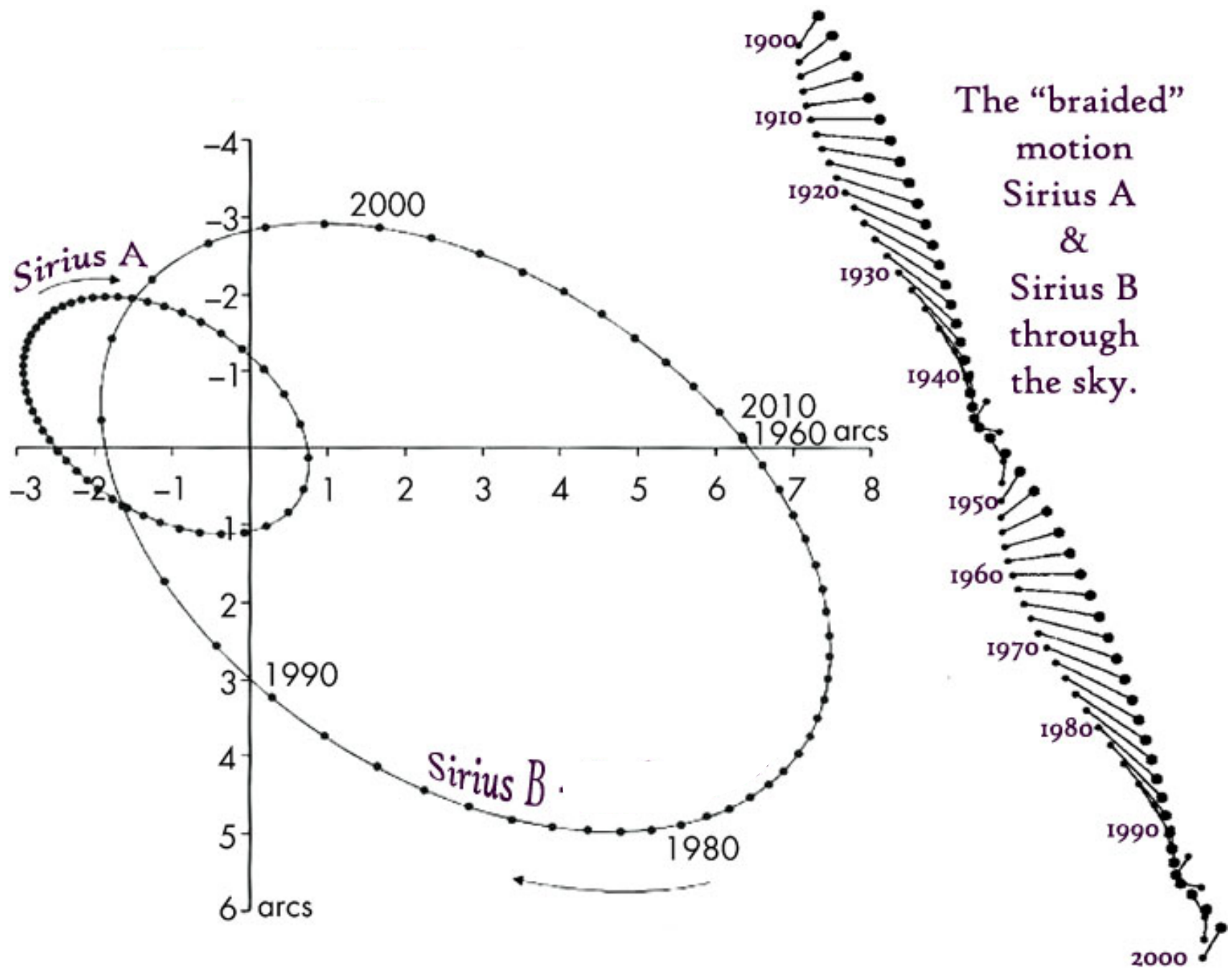
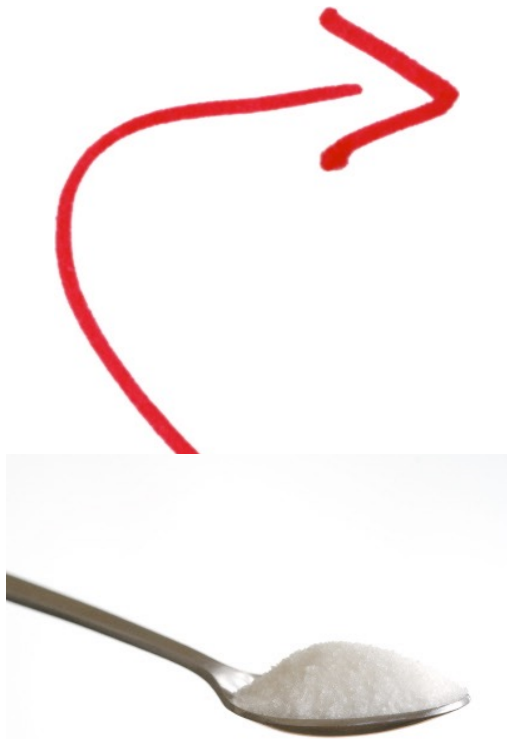
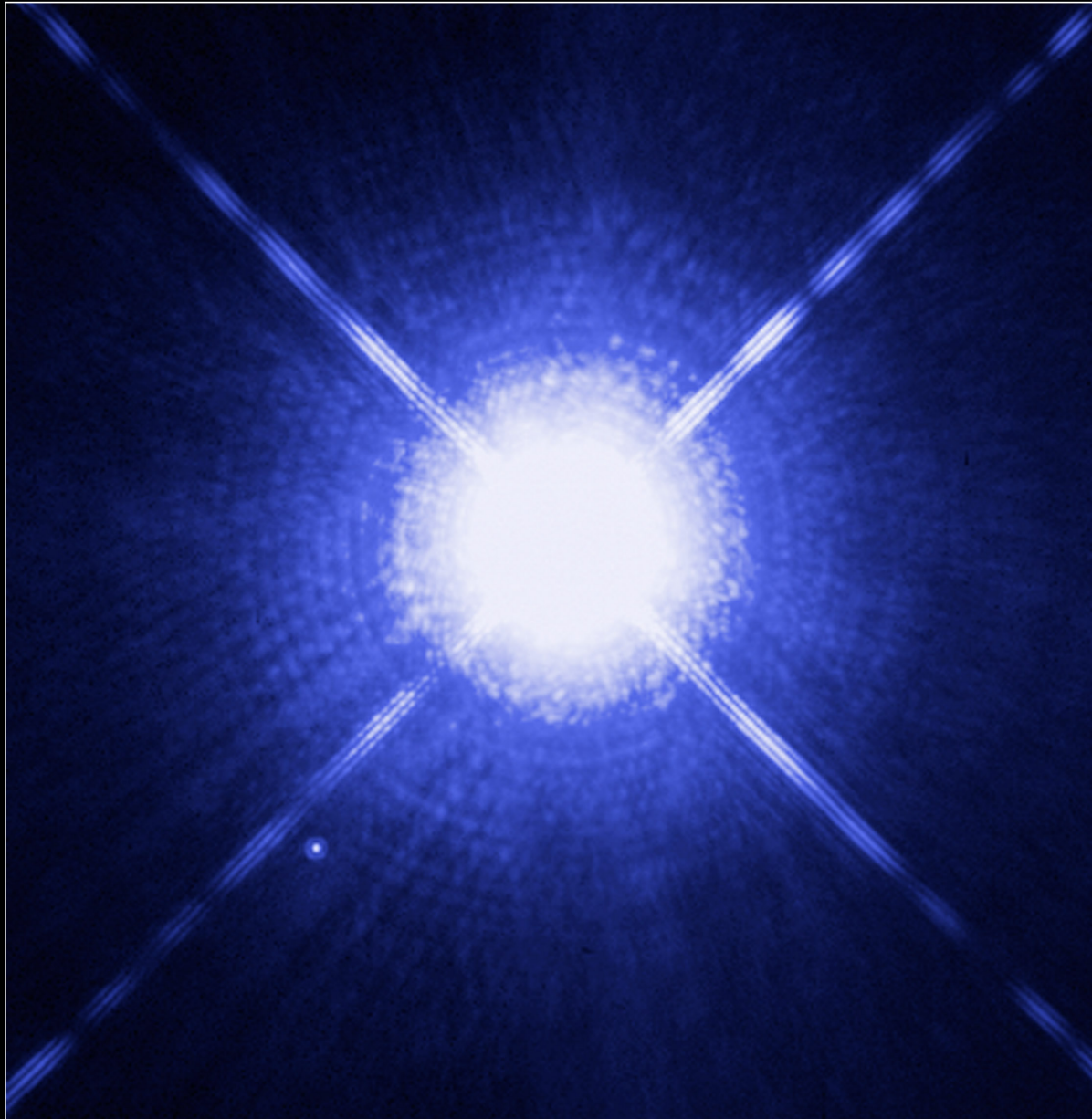


Table 14.1 Physical Parameters of the Sirius A B Binary System.

Property	Sirius A	Sirius B
Spectral type	A1V	DA2
M_V (mag)	1.4	11.2
Mass (M_\odot)	2.0	0.98
Radius (R_\odot)	1.7	0.0084
Surface gravity ($\log g$)	4.3	8.57
Luminosity (L_\odot)	25	0.026
Temperature (K)	9940	25 200





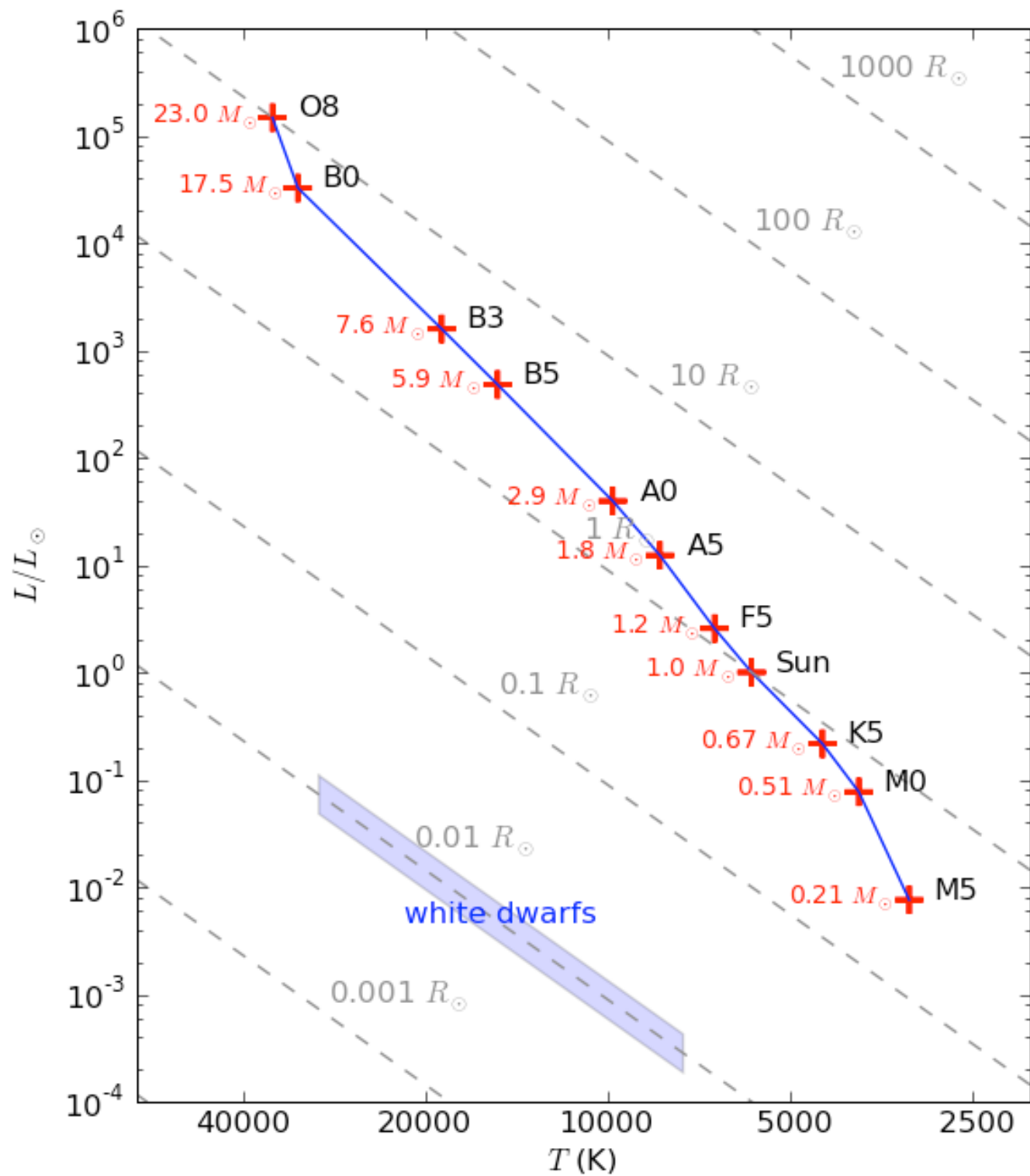
Sirius A and Sirius B
Hubble Space Telescope • WFPC2



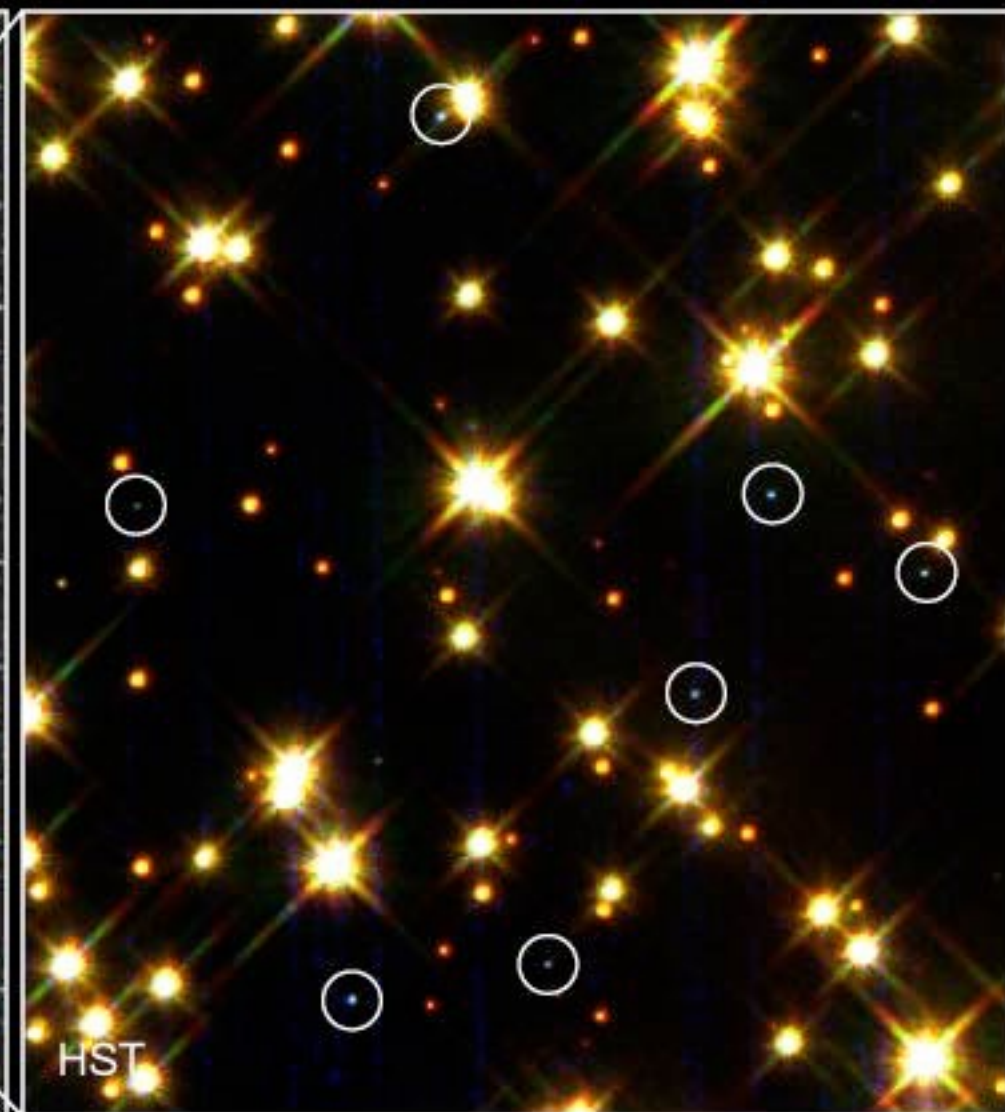
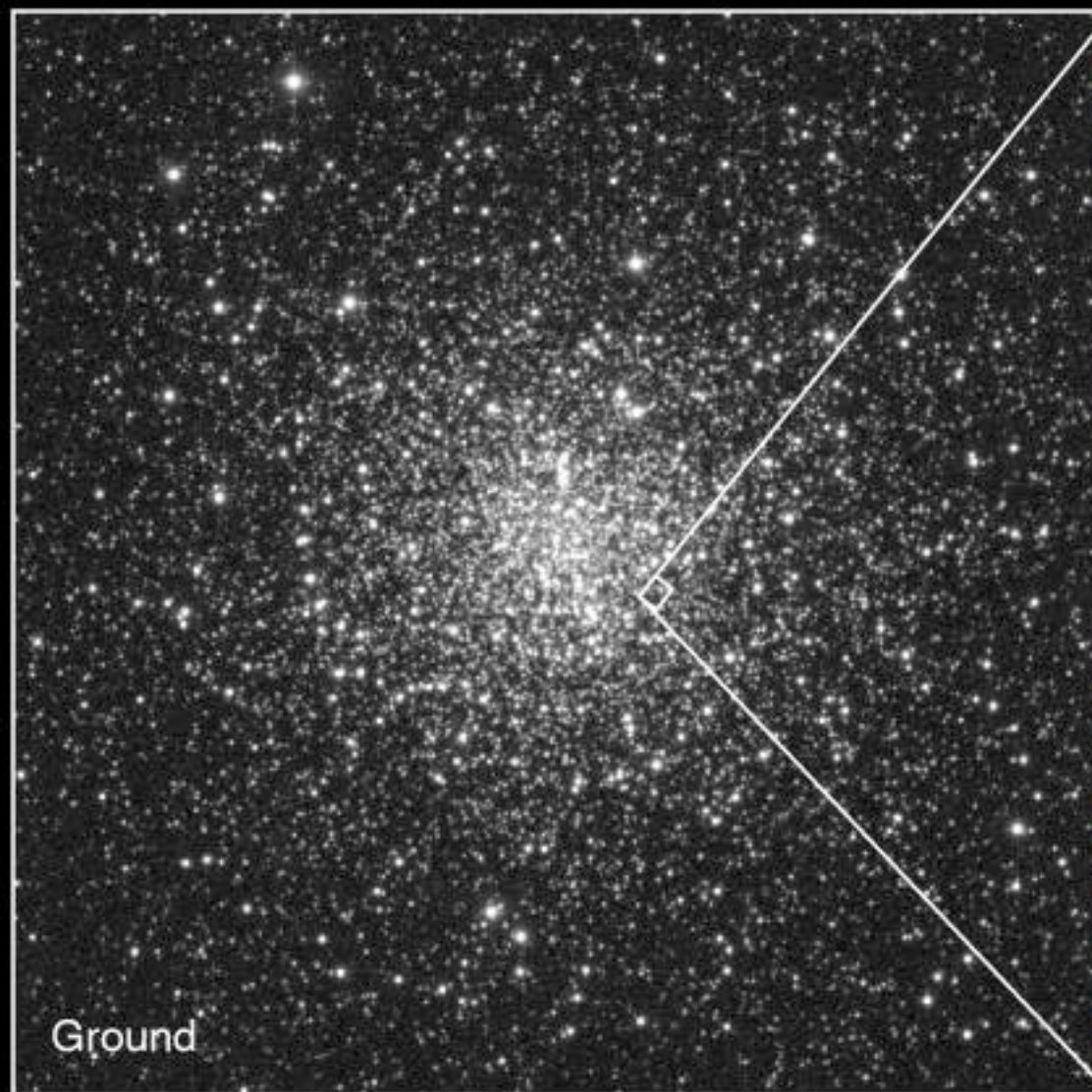
Chandra X-ray Observatory
chandra.harvard.edu



Sirius A & B
NASA/SAO/CXC



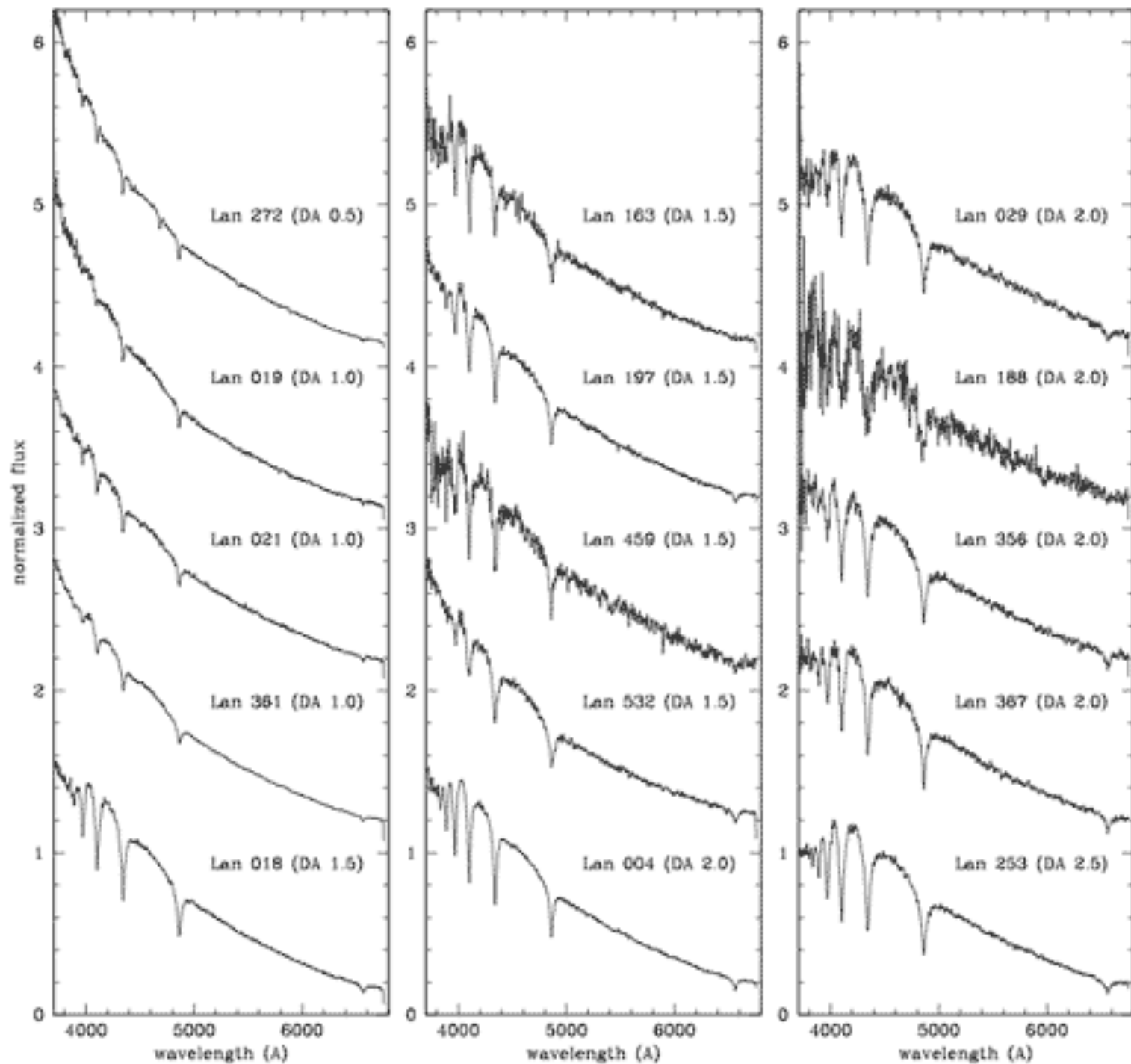




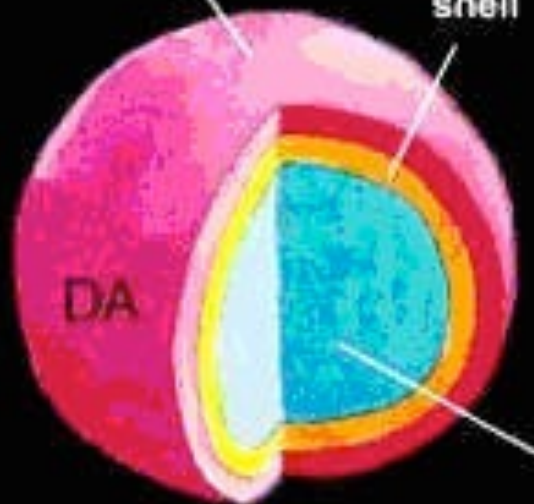
White Dwarf Stars in M4

PRC95-32 · ST ScI OPO · August 28, 1995 · H. Bond (ST ScI), NASA

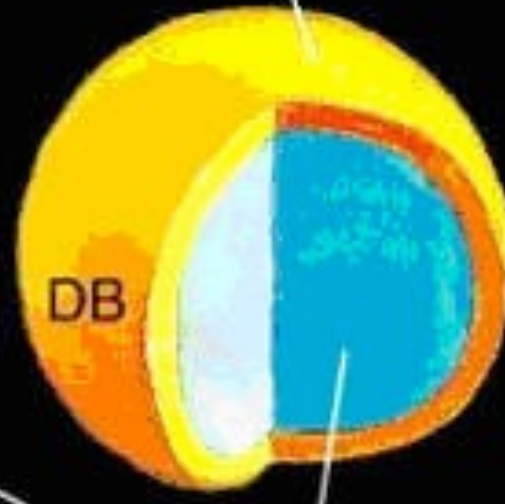
HST · WFPC2



nearly pure hydrogen surface



nearly pure neutral helium surface



carbon and oxygen core

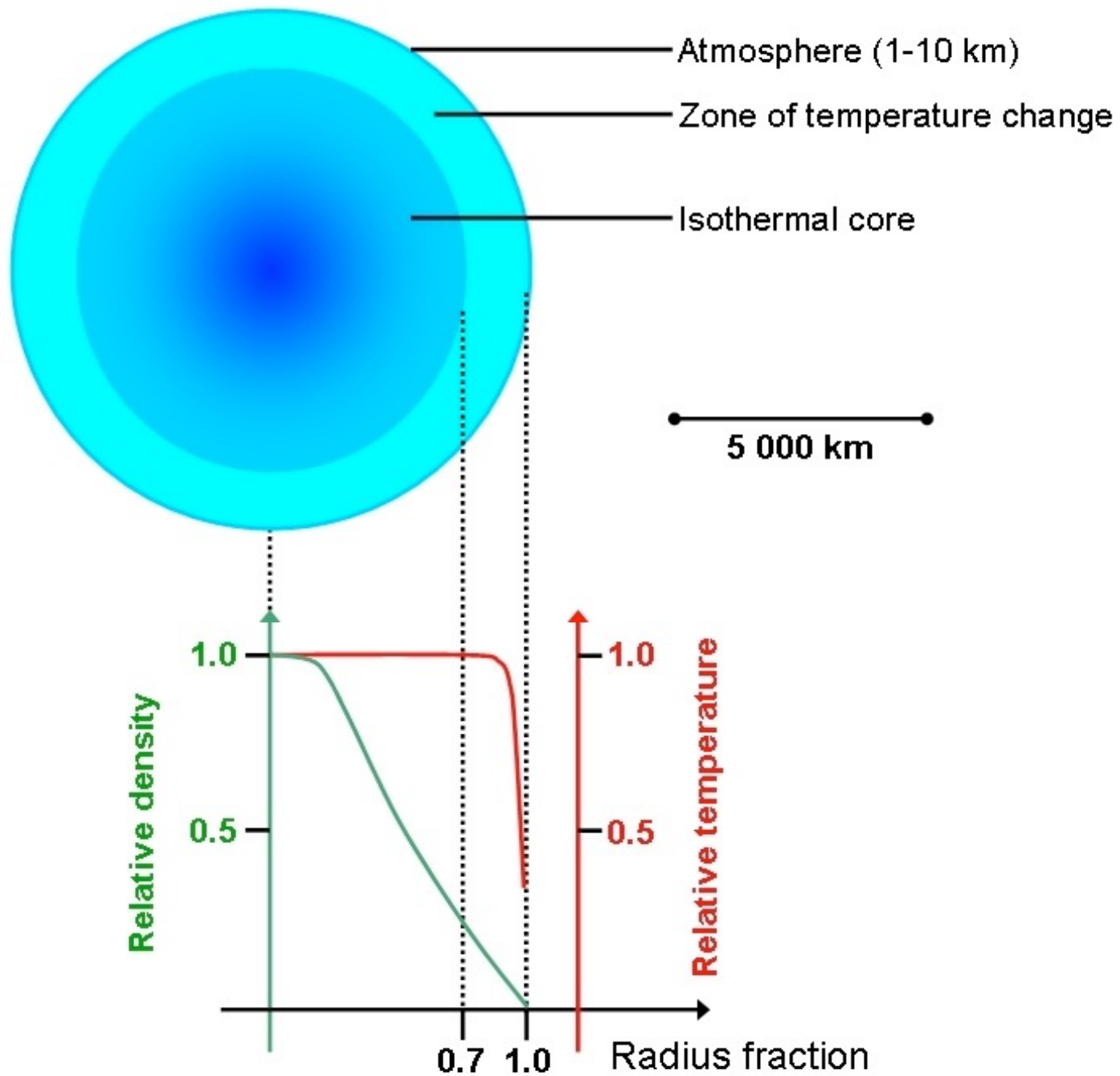
nearly pure ionized helium surface

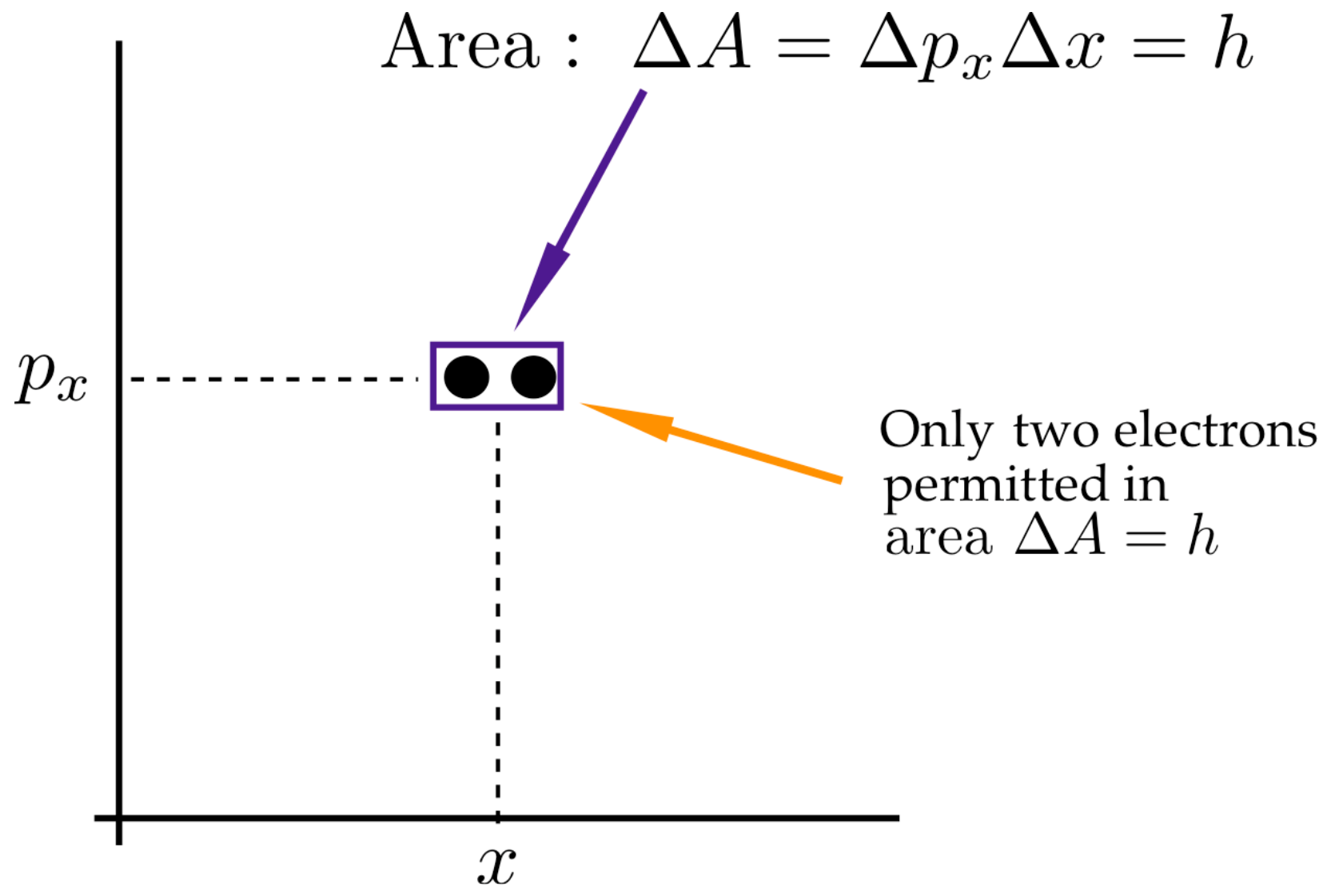


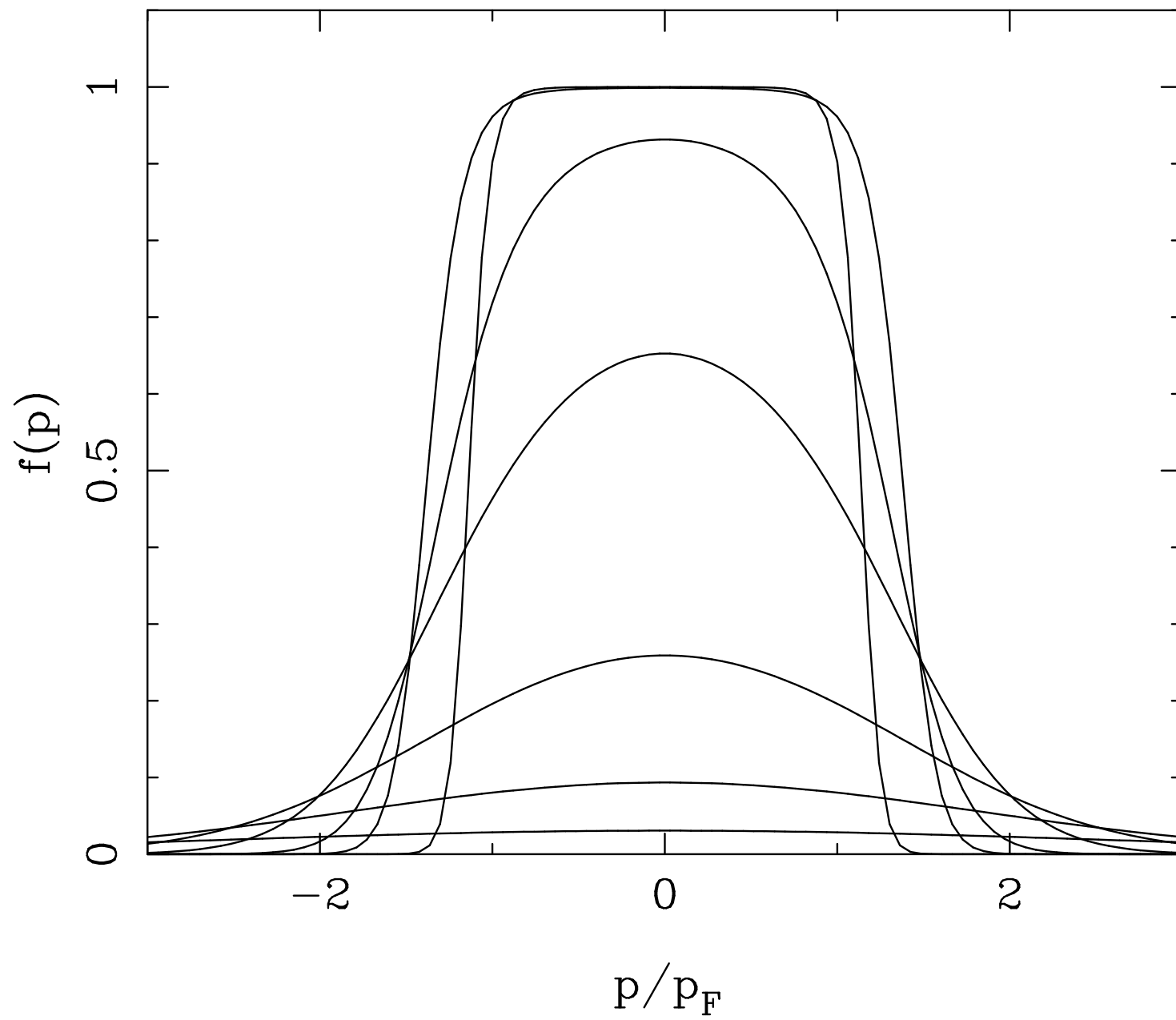
exposed core of carbon and oxygen

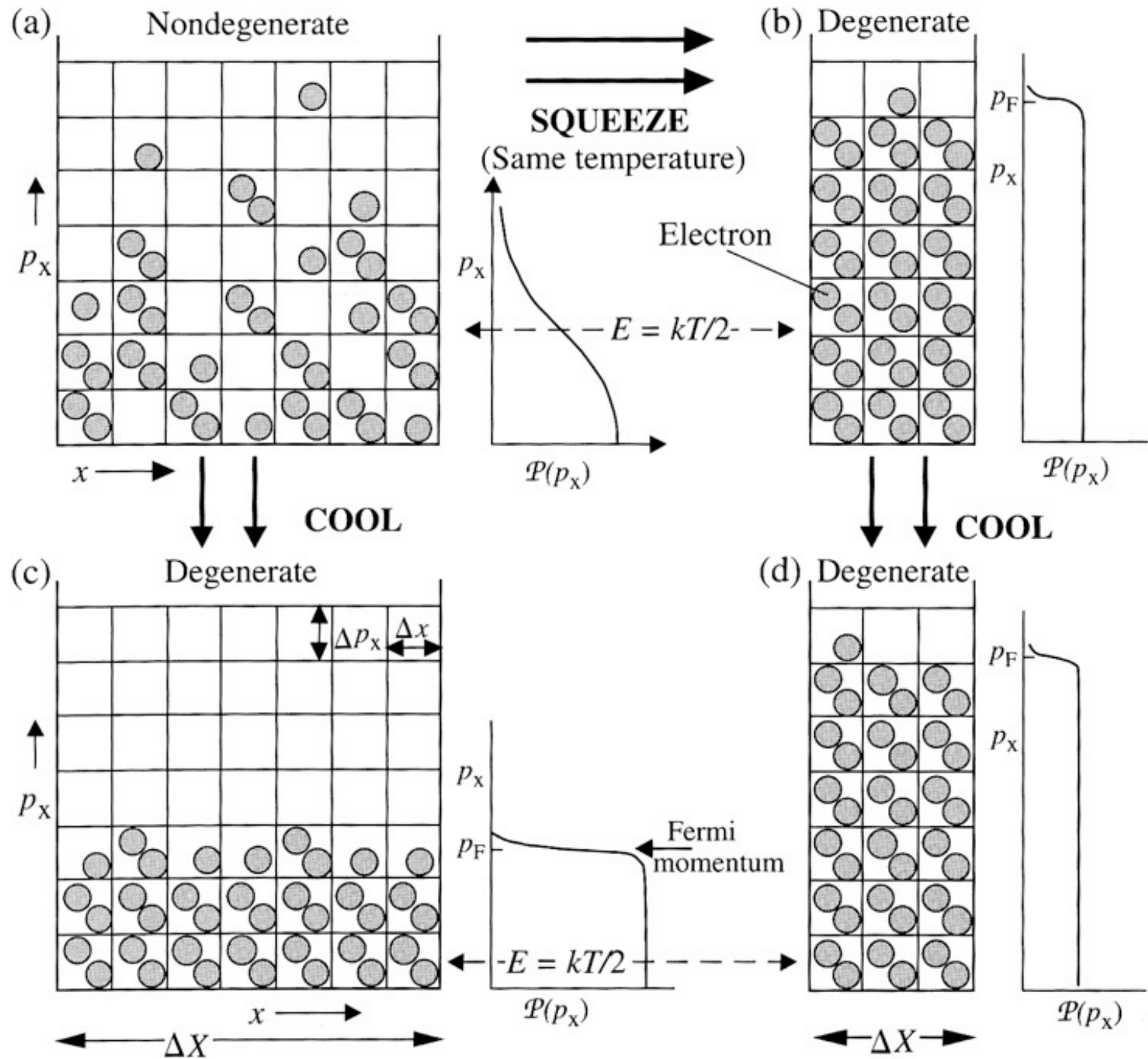


Structure of a White Dwarf









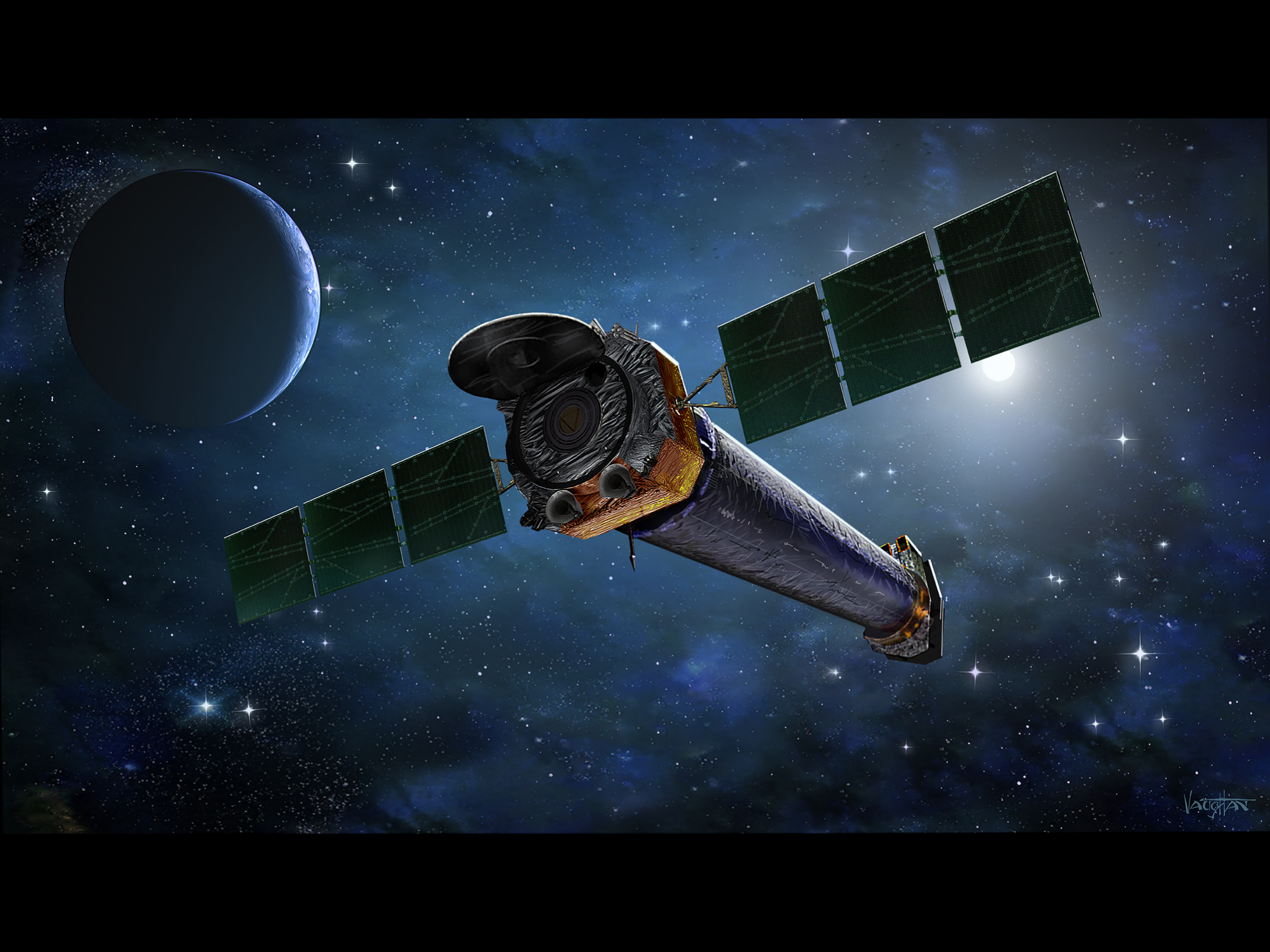




Chandra X-ray Observatory
chandra.harvard.edu



Sirius A & B
NASA/SAO/CXC

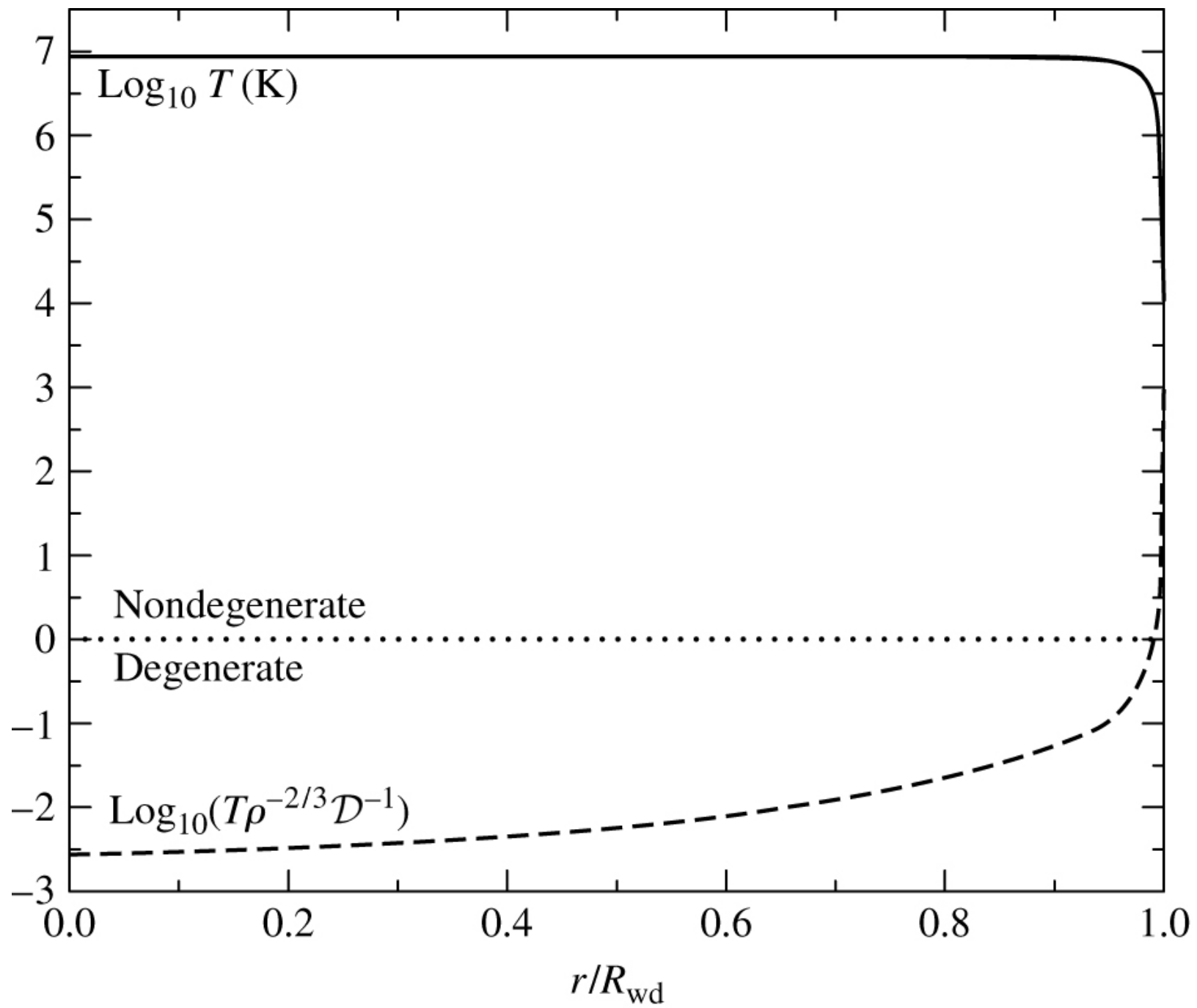


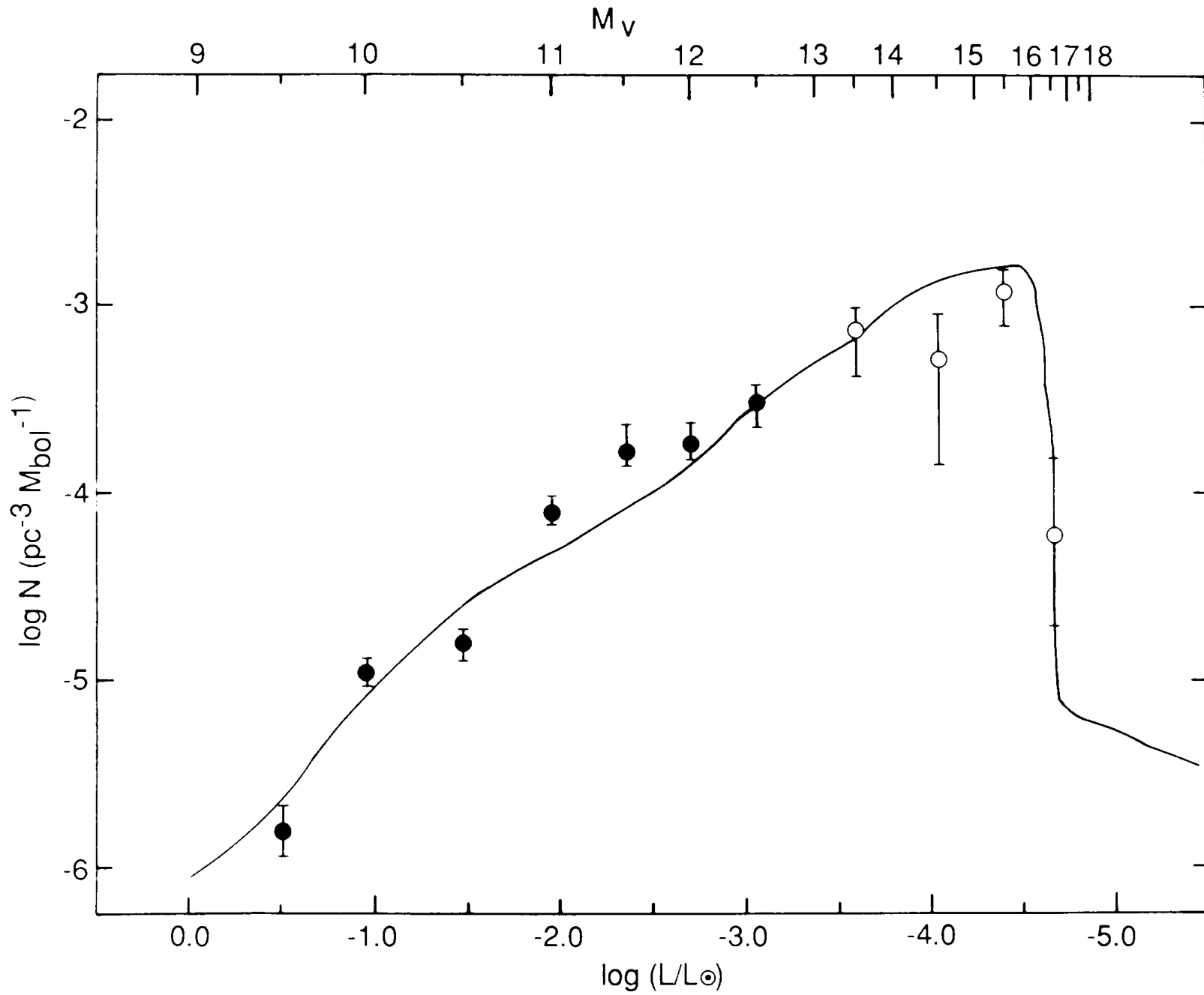
VAGHAN











Winget et al. 1987

The Cosmic Microwave Background as seen by Planck and WMAP

