

The Stellar Graveyard

ASTR 1220, Summer 2010

20 July 2010

Outline

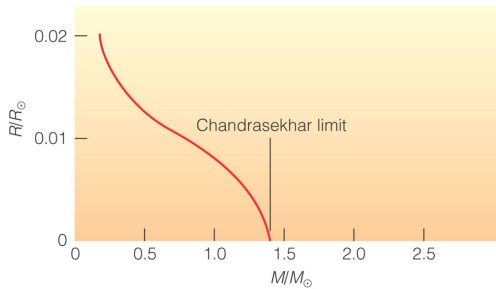
Bennett Ch 18

White Dwarfs

Neutron Stars & Pulsars

Black Holes

White dwarf radius

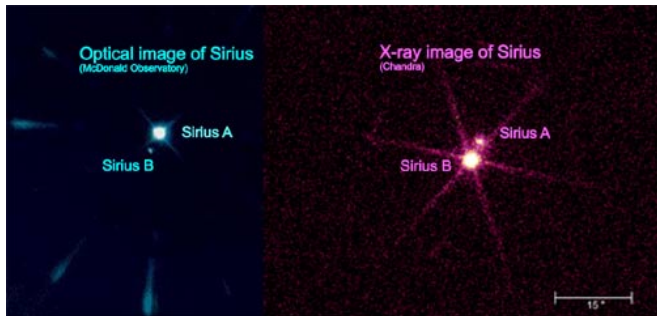


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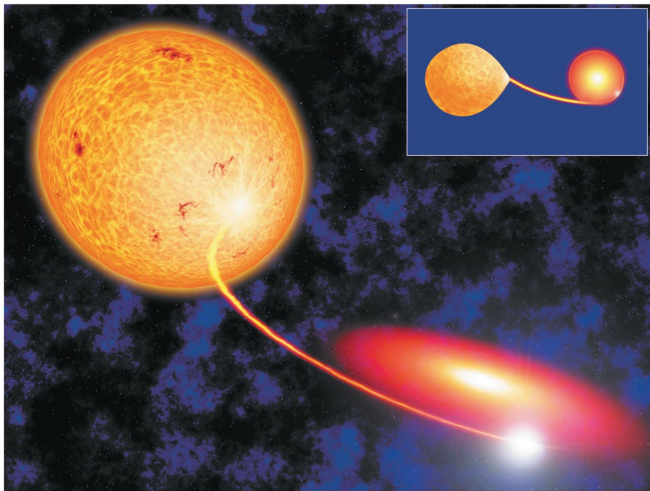
White Dwarf Example: Sirius



White Dwarf Example: Sirius

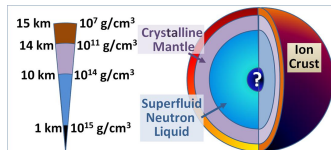


Mass Transfer

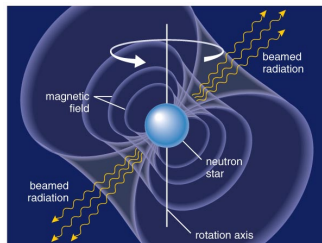


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Neutron Star Structure



Pulsar Emission



a A pulsar is a rotating neutron star that beams radiation along its magnetic axis.

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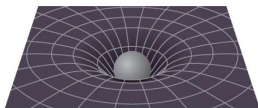
X-Ray Binary

X-ray binary formation applet

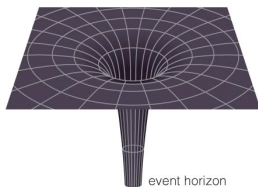
Black Hole



a A two-dimensional representation of “flat” spacetime. Each pair of circles is separated by the same radial distance.



b A mass affects the rubber sheet similarly to the way gravity curves spacetime. The circles become more widely separated — indicating greater curvature — as we move closer to the mass.



c The curvature of spacetime becomes greater and greater as we approach a black hole, and a black hole itself is a bottomless pit in spacetime.

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