

Introduction to Astronomy

Summary Questions Week 9

2 December 2019

1. Much of what we know about white dwarfs is derived from their spectral lines. Name three effects that can affect the absorption lines in a white-dwarf's spectrum.
2. How do observations of radio pulsars help to test and constrain theories of gravity?
3. In the context of pulsar astronomy, what is a $P - \dot{P}$ diagram and why is it important? (Why is it also referred to as the "Hertzsprung-Russell diagram of pulsar astronomy"?)
4. When mass is transferred in binary star systems involving a NS or BH, this is typically observed as an X-ray binary. Why do these systems primarily show up in X-rays?
5. What is the lighthouse effect and what does it tell us about the nature of a pulsar's emission? (i.e. does it imply emission from pulsars is continuous or pulsed?)