Lecture 27 — Special Relativity and Pulsars
Example 2: Consider two cars, A and B, headed toward an intersection. Both cars are equally far from the intersection and are headed toward it at 100 km/hr. They will collide when they reach the intersection. However, if you are standing straight down the street in the direction that car A is heading you will see the light from car A moving faster than the light from car B. Thus, you would see car A get to the intersection before car B and thus there should be no collision.

What!? That's not possible. The collision happens, it should not depend on where we are located as to whether or not we see the collision to occur.

If $c$ were not absolute, you would see car A reach the collision point before car B.
Special Relativity

Time Dilation

Jackie’s point of view

your point of view

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Spaceship Moving at the 10 % the Speed of Light

Spaceship Moving at the 86.5 % the Speed of Light
Neutron Stars

- Pulsars
- Lighthouse model of Pulsars
- Binary Pulsars
- Neutron Star Structure
- Magnetars
- GRBs
Neutron Stars: Size 10 km
Neutron Stars: Structure

- Outer Crust
- Inner Crust
  - Superfluid neutrons
  - Superfluid protons
  - Electrons
- Core
First Pulsar: CP1919
Crab Nebula