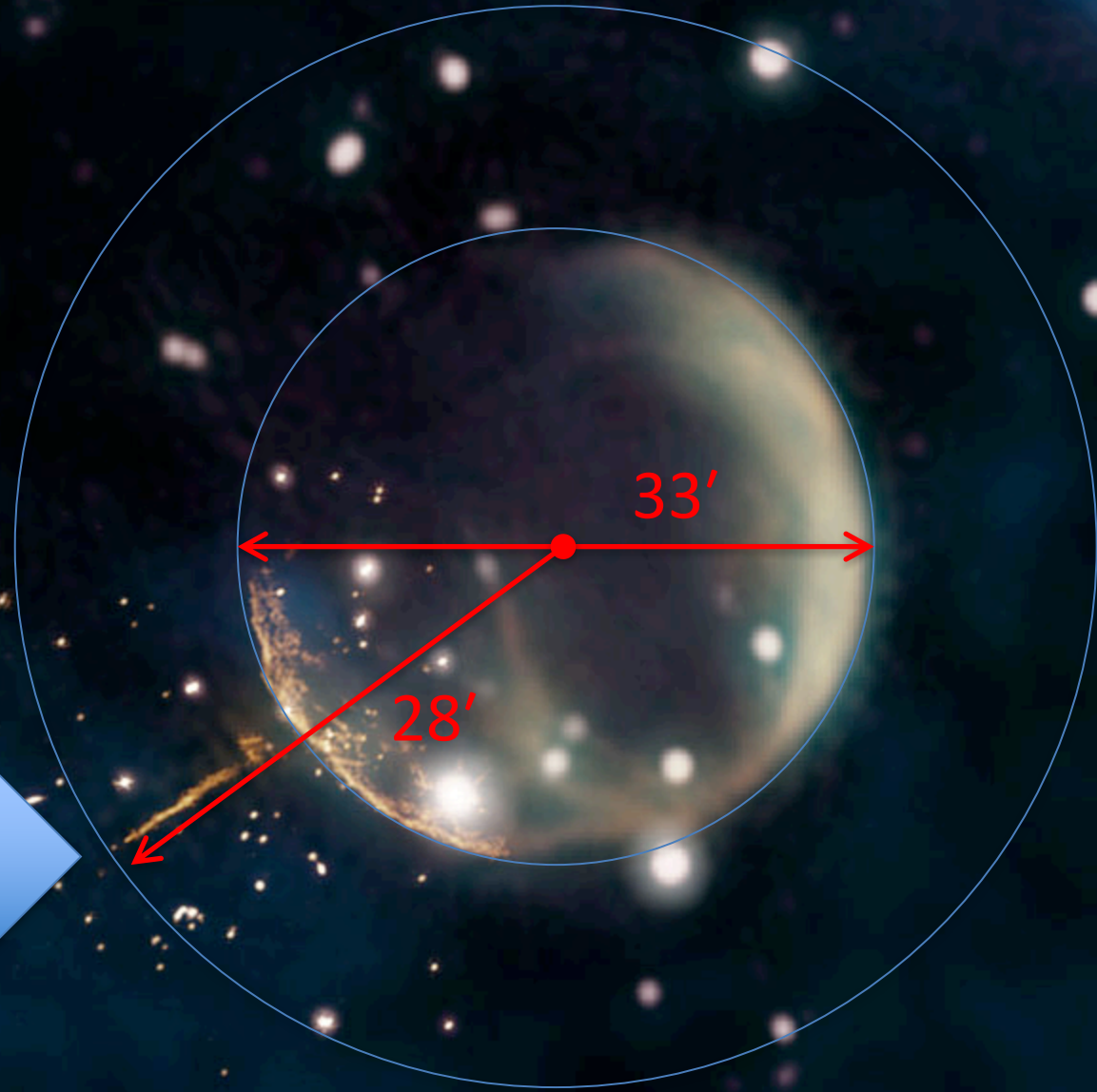
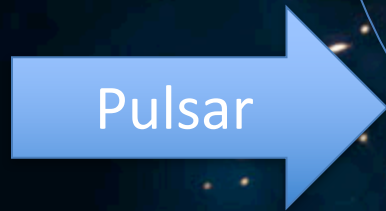




Pulsar J0002+6216

- The supernova remnant has apparent diameter $33'$ and distance 6500 ly. Find the actual diameter of the explosion's "bubble".
- The pulsar appears to be $28'$ from the center – how far is it?
- The pulsar rotates 8.7 times per second and has been observed for 10 years. How many times has it rotated in that time?
- Based on rotation timing, the speed of J0002 has been determined to be 1100 km/s. Given that the pulsar is 53 ly from the center of the bubble how long ago did the supernova explosion occur?



Answers:

1. Actual diameter of “bubble”: 62.4 ly
2. Distance of pulsar from center: 52.9 ly
3. Pulsar has rotated 2.75 billion times in ten years of observations
4. Explosion occurred 14000 yrs ago.