Answer on question #54931, Physics / Astronomy — Astrophysics

Question An astronomer observes a bright star (Altair) that has a parallax angle of p = 0.20 arcseconds. The flux f from Altair is approximately 9.4 1012 times the flux from the Sun. The distance d from the Earth to the Sun is (1/206265) pc. (a) What is the distance d to Altair star in units of parsecs (pc)? (2 points) A. 0.20 pc
B. 2.06 pc
C. 3.14 pc
D. 5 pc
E. 50 pc

Solution Distance in parsecs is related to parallax angle as

$$d = 1/p$$

Hence, distance is

$$d = \frac{1}{0.2} = 5\,pc$$