

HW 3, #2 Star δ Cep has measurements

Survey	π (mas)	σ (mas)	precision (%)
Hipparcos	3.32	± 0.58	17
Gaia	3.56	± 0.15	4

What about the more distant star QR Ser?

Hipparcos	-0.71	± 1.17	???
Gaia	0.48	± 0.036	8

The Hipparcos measurement is consistent with a parallax $\pi = 0$, which corresponds to a distance $d = \infty$.

It's impossible for a true parallax angle to be negative...
so clearly the measurement is dominated by error.

The best one can conclude from the Hipparcos measurement is that there is an upper limit to the angle:

$$\pi \leq -0.71 + 1.17 = 0.46 \text{ mas}$$
$$\Rightarrow d \geq \frac{1000 \text{ mas} \cdot \text{pc}}{0.46 \text{ mas}} = 2200 \text{ pc}$$

and so a lower limit to the distance.