

Ptolemy vs. Copernicus

During the latter half of the sixteenth century there was a major debate going on in mathematical astronomy – which model of the solar system was right, Copernican or Ptolemeic? Arrange the following arguments in a Venn diagram according to who made the arguments - some could have been made by both and some were not made by anyone.

1. This model is more accurate
2. If the earth went around the sun once a year, it would be moving so fast we would feel all kinds of weird effects
3. This model is easier to use mathematically
4. This is a nice coherent system, in which the sizes of the planetary orbits are all scaled to the earth's orbital radius
5. There can only be one center of motion
6. The earth can't possibly be moving or rotating or lots of weird things will happen
7. The Bible says the earth can't move
8. The sun has to be the center of the orbits because its gravity causes the motions
9. There is no observable stellar parallax, so the earth can't be moving
10. There is no observable stellar parallax, so the stars must be really far away
11. Stars on the equator would be moving stupidly fast if the celestial sphere rotated once per day
12. The earth has to be the lowest point in the universe, because earthly matter wants to be as low as possible
13. The Heavens are perfect and unchanging, so the earth can't be a celestial body because things die and decay here on earth
14. Heavenly motions must be based on the Principle of Uniform Circular Motion
15. The equant breaks the Principle of Uniform Circular Motion
16. This model explains the observed motions in the sky
17. The earth has to be the center of the universe because humans are special
18. This model uses epicycles to more accurately explain the motions of the planets
19. If you say that there is no stellar parallax because the stars are really far away, the stars would also have to be stupidly huge to be visible here on the earth
20. Using circles to explain the motions of the planets is stupid
21. The other model doesn't work
22. If the water is really calm, one doesn't notice the motion of a ship, so we wouldn't notice the motion of the earth going around the sun

