

why does the water stream from the water faucet seem like white and full of bubbles rather than transparency.

There is this scene where Homer needs to drive a motorcycle in a steel spherical cage and he needs to ride the motorcycle up along the cage until he's upside down and needs to go fast enough so that he continues down to the other side without falling straight down from the top. What is the minimum speed needed to meet these requirements and what factors affect how fast he needs to go?

What are the Van Allen belts and how were they detected?

Since a black hole's gravity is so strong, it distorts time to an outside observer. So, if someone, or something, is falling into a black hole, and someone is watching the person fall towards the black hole, neglecting the fact that the person is ripped apart by the gravity, how long to the outside observer does it take for the person to fall into the black hole?

What makes thunder and lightning?

how conceptually does rolling friction work? Friction opposes the relative motion of two surfaces, so if the friction is providing a force opposite the rotation of the wheel at the point of contact, which would be in the direction of the wheels linear motion, why does the linear speed slow? It makes sense that it provides a torque that would slow the angular speed, but what about in terms of linear dynamics?

Most cosmologists claim that the universe is expanding and accelerating faster, but recent data from observations of the CMB radiation show that the speed at which far away stars are moving away from us is slower than the speed suggested by the previous data (collected using stars closer to us). Wouldn't that mean the expansion is slowing down, or was the previous data just not as accurate?

in magnetism, why do like charges (positive and positive, or negative and negative) repel, and opposite charges (negative and positive) attract?

As a trumpet player, I'm really interested in how a trumpet actually works. So my physics-related question is, why can I play different notes without depressing any of the valves, and how does the trumpet turn my air into sound?

I have always wondered about the idea of the multiverse... what does that mean in terms of actual physics as opposed to sci-fi/media, why is considered a valid idea/how valid is it (in your opinion)?

Why does the world spin?

Why does quantum mechanics not apply to larger objects?