

Cosmological Horizons: A simple model to clarify some common misconceptions.

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ABSTRACT

We use a rubber balloon model to give a simple explanation of the motion of photons and galaxies in an expanding and collapsing universe [1]. In particular, we study some misconceptions regarding the Hubble-sphere, the particle-horizon, the event-horizon, the optical-horizon, the neutrino-horizon, and the gravitational-wave-horizon. One of these confusions is the idea that we can not observe galaxies that have recessional velocities greater than the speed of light.

References

- [1] C. Criado and N. Alamo, Round an expanding world: A simple model to illustrate the kinematical effects of the cosmological expansion, *Am. J. Phys.* 75, (2007) 331–335.