



Scale model of the Universe.

In this scale model the Earth is set to the size of an atomic nucleus (e.g. proton radius, 10^{-15} meters). If the Earth is set at this sub-atomic size then the classical solar system out to Saturn would be the size of an atom (10^{-10} meters). The separation between stars at this scale would be about the same as the separations between small cells in your body (microns). Our milky way galaxy would be the size of a human brain (10 centimeters) with incidentally the same numerical complexity as a human brain: our galaxy containing 100-billion stars and your brain 100-billion neuronal cells. The separation between neighboring galaxies would be a few meters, or roughly the packing distance between people in an office or classroom. Finally, the known universe in this scale model would occupy the size of a large city, or about 10 kilometers.

In other words to represent the entire universe in terms of something whose size we can readily judge (a city) means making a scale model where the Earth is subatomic in size.