

# **DARK MATTER AND DARK ENERGY**



**Dark matter-** form of matter that does not emit electromagnetic radiation and does not interact with it. Feature of this form of matter makes it impossible to direct observation.

The most natural assumption seems to be that the dark matter consists of normal, baryonic matter, for any reason, weakly interacting electromagnetically and therefore undetectable in the study, for example, the emission and absorption lines. The composition of dark matter may include many have already found space objects, such as dark galactic halo, brown dwarfs and massive planets, compact objects in the final stages of evolution: white dwarfs, neutron stars, black holes. In addition, these hypothetical objects such as quark stars can also be part of the dark matter.



# Hot dark matter

- ▣ If at the time of exit from the equilibrium energy particles is much higher than their mass, called DM hot. These could be lighter particles such as neutrinos, but cosmological data exclude the possibility that the latter account for a significant share of DM.

- ▣ The main difficulty in finding dark matter particles is that they are electrically neutral. There are two search options: direct and indirect. In a direct corollary finding study the interaction of these particles with electrons or atomic nuclei using ground equipment. Indirect methods are based on trying to detect secondary particles flows that occur, for example, by the annihilation of solar or galactic dark matter.

