D.I. Kazakov (BLTP JINR, Dubna) "The problem of the dark matter and its possible solution in Supersymmetric model"

The problem of the dark matter in the Universe is considered. The arguments are given that support its existence. Recent data on cosmic rays (positrons, antiprotons and gamma rays) in space experiments, which indicate the excess of the flux at high energy, are discussed. The interpretation of these data which assumes a single origin of all the additional particles, namely the annihilation of the dark matter in galactic halo, is proposed. The dark matter can be composed of relict neutralino, the heavy neutral particles which are present in supersymmetric extensions of the Standard model. It is shown how in this case one can reconstruct the profile of the dark matter in our galaxy starting from the angular distribution of the gamma rays of high energy. This would be the indirect confirmation of existence of SUSY and allow one to predict the neutralino mass.