



Colloquium

Search for the Dark Matter on ground and in space

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Abstract : It is generally believed that the Dark Matter makes up a significant part of our universe. However, all the evidences of its existence are derived from gravitational effects. So far it has eluded all the detection efforts by any other means. Understanding the nature of the dark matter is therefore one of the most urgent issues in fundamental physics. A global effort in High Energy Physics is being carried out to tackle this problem. In this talk, I present two experiments the we have been involved in the search for the dark matter. In space, the AMS experiment on board of the International Space Station is measuring the mysterious excesses of positrons and anti-protons in cosmic rays. They may come from dark matter annihilations in the interstellar space. On ground, we are conducting the TASEH experiment, located in NCU, to search for the hypothetical particle called Axion, which could be the dark matter particle. I will go through the physics motivations of these experiments and report some latest results.