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Laboratory experiment for verification of particle formation by cosmic ray induced ionization

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Since it was pointed out that the variation in galactic cosmic-ray intensity and the change of cloud cover are well correlated, effects of cosmic rays on global environment have been discussed. Particularly a hypothesis that galactic cosmic rays affect the global climate by enhancing nucleation of cloud particles through atmospheric ionization was suggested and has attracted attention. In order to verify the hypothesis experimentally, we have planned a laboratory experiment and performed some preliminary measurements. In this talk we overview the cosmic ray - cloud formation hypothesis and describe the present status of the experiment.

Keywords: cosmic rays, atmospheric ionization, nucleation, climate change, laboratory experiment