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Correlation study of atmospheric/space weather and cosmic ray flux variation MATHES DAYANANDA, XIAOCHUN HE, Georgia State University — In recent years, there has been a growing interest of understanding the effects of cosmic ray radiation on Earth's climate and environment, particularly on average global temperature. Discoveries suggest that climate variability is at least partially linked to changes in cloud cover influenced by changes in the cosmic ray muon and neutron flux [1]. The recent findings also indicate that there is a correlation between cosmic rays and ozone depletion, especially the polar ozone over Antarctica [2]. At Georgia State University (GSU) we are working on a long-term measurement of secondary cosmic ray flux distribution and are focusing on studying the correlations among variations of cosmic ray flux and atmospheric/space weather. In this talk, we will present the preliminary results from our cosmic ray flux detector measurements which are currently taking data at GSU.

[1] Nigel D. March and Henrik Svensmark, Low Cloud Properties Influenced by Cosmic Rays, Phys. Rev. Lett. 85, 23 (2000).
[0pt][2] Q.-B. Lu, Correlation between Cosmic Rays and Ozone Depletion, Phys. Rev. Lett. 102, 118501 (2009).

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