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Correlation study of atmospheric weather and cosmic ray flux variation MATHES DAYANANDA, XIAOCHUN HE, Georgia State University — There is at present a great debate about the causes of the changing climate of the Earth. In recent years, there has been a growing interest of understanding the effects of cosmic ray radiation on the increase in average global temperature. The studies by Svensmark, show that there is a strong link between cosmic rays and low cloud coverage [1]. Very recently, Lu reported that there is a correlation between cosmic rays and ozone depletion 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 presentation, we will describe the cosmic ray flux detectors currently taking data at GSU and show the preliminary results from our measurements over the past two years.

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

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