

R010-19

A 会場 : 9/25 AM2 (10:45-12:30)

10:45~11:10

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Response of high-altitude clouds to the GCR variations in tropical regions

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Correlations between solar activity and climate have been reported for various time scales; however, the detailed mechanisms behind the connection still need to be clarified. Galactic cosmic rays (GCRs) are one of the possible mediators of the Sun-climate relationship, and it has been suggested that they may impact cloud activity by forming aerosols or by promoting the collisional processes in clouds. Originally, it was suggested that low-altitude clouds over oceans are responding to GCR variations; however, a consensus has not been established. Cloud chamber experiments have indicated that GCR-induced aerosol formation is more efficient at lower temperatures (i.e., upper troposphere). In this presentation, we show that tropical clouds associated with deep convections respond to the variations of GCRs. We show that a number of conditions are required for clouds to be affected by GCRs.