Japan Geoscience Union Meeting 2014
(28 April - 02 May 2014 at Pacifico YOKOHAMA, Kanagawa, Japan)

AAS22-P26 Room:Poster Time:May 1 18:15-19:30

Development of Atmospheric Environmental Risk Management System in Chile and Argentina

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We started an international collaboration project on research of ozone/UV and aerosol in South America since 2013. This project is supported by Japan Science and Technology Agency (JST) and Japan International Cooperation Agency (JICA) under SATREPS program. The counterpart institutions are CEILAP (Laser Application Research Center) in Argentina and Magellan University in Chile. The major aims of this project are (1) to construct new aerosol lidar network in Chile and Argentina, (2) to consolidate the ozone monitoring capability at the South Patagonian Atmospheric Observatory (OAPA , 52S, 69W) in Rio Gallegos at the southern end of the South American continent. The new aerosol lidar network consists of 9 lidars. Six of them are Raman lidars and the other 3 are high-resolution lidars with an iodine filter. Eight lidars are distributed over Argentine territory to observe volcanic ashes from volcanos in Andes, Patagonian dust, and black carbon from Bolivia and Brazil. From the observatory in Rio Gallegos, we will make comprehensive observations of ozone by using a DIfferential Absorption Lidar (DIAL), millimeter-wave spectral radiometer, brewer spectrometer, and so on. In addition to the consolidation of observing network, we will develop data analysis and data distribution system to deliver the data to the relevant organizations in the both countries.

In the presentation, we will introduce the overview of this project and present a progress report after the first year.

Keywords: Aerosol, Ozonehole, Lidar, Millimeter-wave spectroscopy, International cooperation, Contribution to society