



2020 천문우주과학과 세미나

SEMINAR IN
ASTRONOMY &
SPACE SCIENCE

TUESDAY, 4 FEBRUARY 2020

박상서 교수님 (울산과학기술연합대학교)

**Title : Estimation of trace gas amount using
method of Differential Optical
Absorption Spectroscopy(DOAS)**

16:00 PM, 천문우주과학과 세미나실(기2514호)

CNU 천문우주과학과, BK21+ 미래우주지질탐사사업단, 자연과학연구소

ABSTRACT

Differential Optical Absorption Spectroscopy (DOAS) is the process of estimating column amount of absorbing species from measurement of hyper-spectral radiation. In the field of atmospheric sciences, the DOAS method is widely used to retrieve the trace gas amounts in the atmosphere since middle of 1970s (Noxon, 1975). Basic principle of DOAS is separating the radiance signal for absorption from the scattering radiance within specific wavelength range. After identifying the absorption signal, the DOAS method allows the simultaneous calculation of the absorption of several gaseous species.

Based on the DOAS method, several kinds of ground-based optical instruments have been developed to retrieve the trace gas amounts relating to the air quality. Furthermore, the several atmospheric environment satellites have been recently launched in Korea, Europe, and U.S. This seminar will be introduced the retrieval technique of DOAS method to adopt the several observation techniques in the atmospheric science fields after introducing the basic principle of DOAS method. In addition, the seminar will be also introduced to the application studies based on the satellite measurements of trace gas from DOAS method.