**Satellite Limb Sounders to Support the Stratosphere-troposphere Processes And Their Role in Climate (SPARC) community**

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| Stratosphere-troposphere Processes And Their Role in Climate (SPARC) is a core project of the World Climate Research Program (WCRP) focusing on the atmospheric sciences. Among other activities, SPARC promotes and coordinates atmospheric climate research and scientific reports (e.g. Chemistry Climate Model Validation – CCMVal) in support of the international climate and ozone assessments. Many of these contributions rely on the availability of high vertical resolution profiles of the atmospheric composition (chemical constituents and aerosols) and temperature provided by satellite limb sounders between the upper troposphere and the mesosphere. We had a wealth of stratospheric limb observations during the past 30 years and the long observational records have provided key data to evaluate atmospheric behavior and constrain model simulations. Today, five of them are still measuring (ACE-FTS, Odin-SMR, Odin-OSIRIS, Aura MLS and OMPS-LP/SNPP), but they are ageing and there are currently no plans (by any country/agency) to replace them with similar capabilities. This contribution aims at reviewing the manifold scientific use of data sets from limb satellites by the SPARC community. We will discuss the implications of the expected lack of adequate limb measurements in the near future and will provide recommendations for the next GCOS implementation plan. |