



## **Long-range transport of forest fire aerosol observed by Raman lidar**

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Over the summer of 2014 and 2015 the Raman lidar system at Aberystwyth observed frequent occurrences of aerosol layers in the free troposphere, layers which are not observed at other times of the year. The Raman lidar can measure the optical depth and lidar ratio of these layers, giving an indication of their microphysical properties. A summary of the observations will be presented, together with evidence that the aerosol originates from forest fires over North America. The hemispheric spread of absorbing aerosol, at a time of year when the northern latitudes are illuminated by the Sun, suggests that there may be implications for the Earth's radiation budget.