



## **Seasonality, sources and sinks of organic nitrates and PAN at Halley, Antarctica.**

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Atmospheric measurements of Organic nitrates (RONO<sub>2</sub>) and peroxyacetyl nitrate (PAN) were made at the Clean Air Sector Laboratory at Halley Research Station, Antarctica as part of the CHABLIS field campaign between Jan 04 and February 05.

Both PAN and RONO<sub>2</sub> have a clear and very similar seasonal pattern with early summer minima and autumn/winter maxima. PAN in Antarctica is almost entirely the result of production elsewhere and long range transport, though the influence of the snowpack is discussed. The organic nitrates in winter are also controlled by transport, but in summer, back trajectories and correlations with Biogenic tracers (such as bromoform and methyl iodide) indicate that there may be a significant marine source of these compounds. There is no evidence of a significant snowpack source of organic nitrates at Halley