

## **Measurements of peroxide concentrations in precipitation and dew water in Toyama, Japan**

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### **Abstract**

Measurements of the peroxide concentrations in precipitation were conducted in Imizu City, Toyama Prefecture, Japan, from July 2005 to March 2009 and in dew water in the autumn of 2008. The peroxide concentrations in the precipitation samples exhibited a range from below the level of detection,  $<0.1\mu\text{M}$ , to  $190\mu\text{M}$  with strong seasonal variations. The peroxide concentrations during the winter were higher in rainwater than in the snow, perhaps because rain and snow have different processes of scavenging peroxides from the atmosphere. The concentrations of peroxides in dew water in Imizu City ranged from 0.8 to  $3.6\mu\text{M}$  from September to November in 2008. At lower sites, the peroxide concentrations were significantly lower in dew water than in rainwater, however, higher concentrations in dew water,  $65\mu\text{M}$ , were detected at Murododaira (2450 m a.s.l.), near the summit of Mt. Tateyama.