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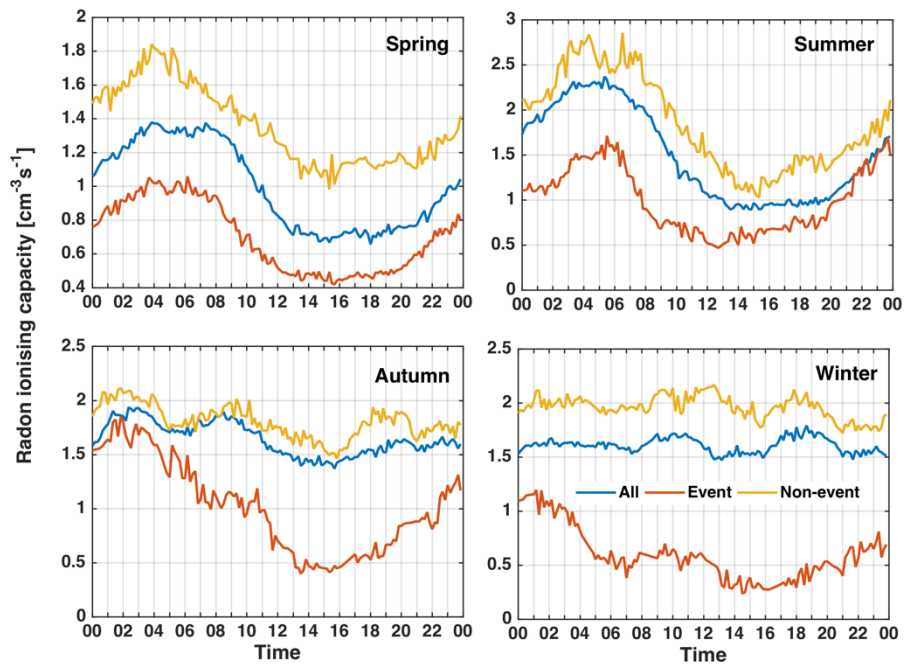
*Supplement of*

## **How do air ions reflect variations in ionising radiation in the lower atmosphere in a boreal forest?**

**Xuemeng Chen et al.**

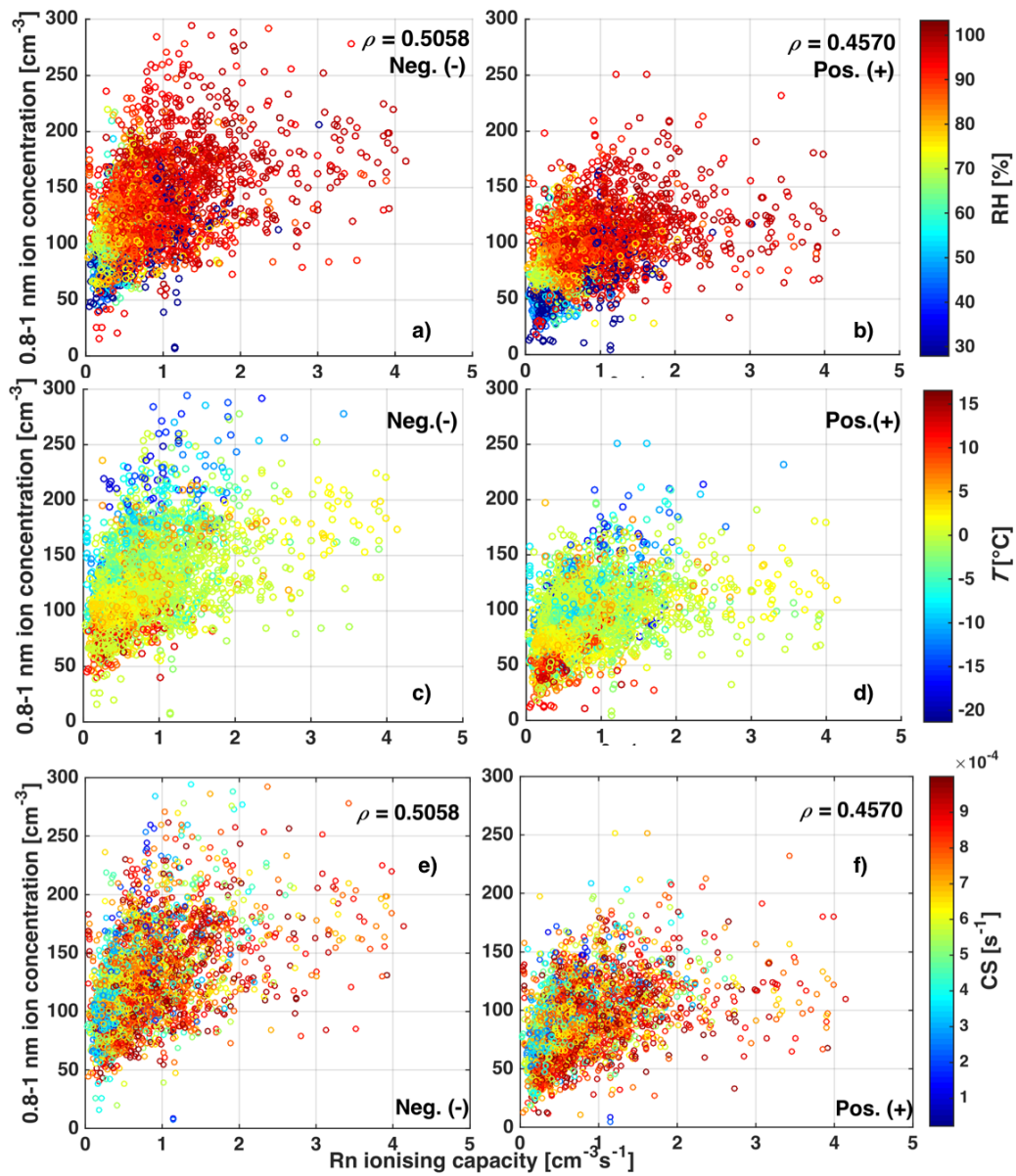
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Figure S1. 10-min median radon ionising capacities on event and non-event days in different seasons over 2003-2006.



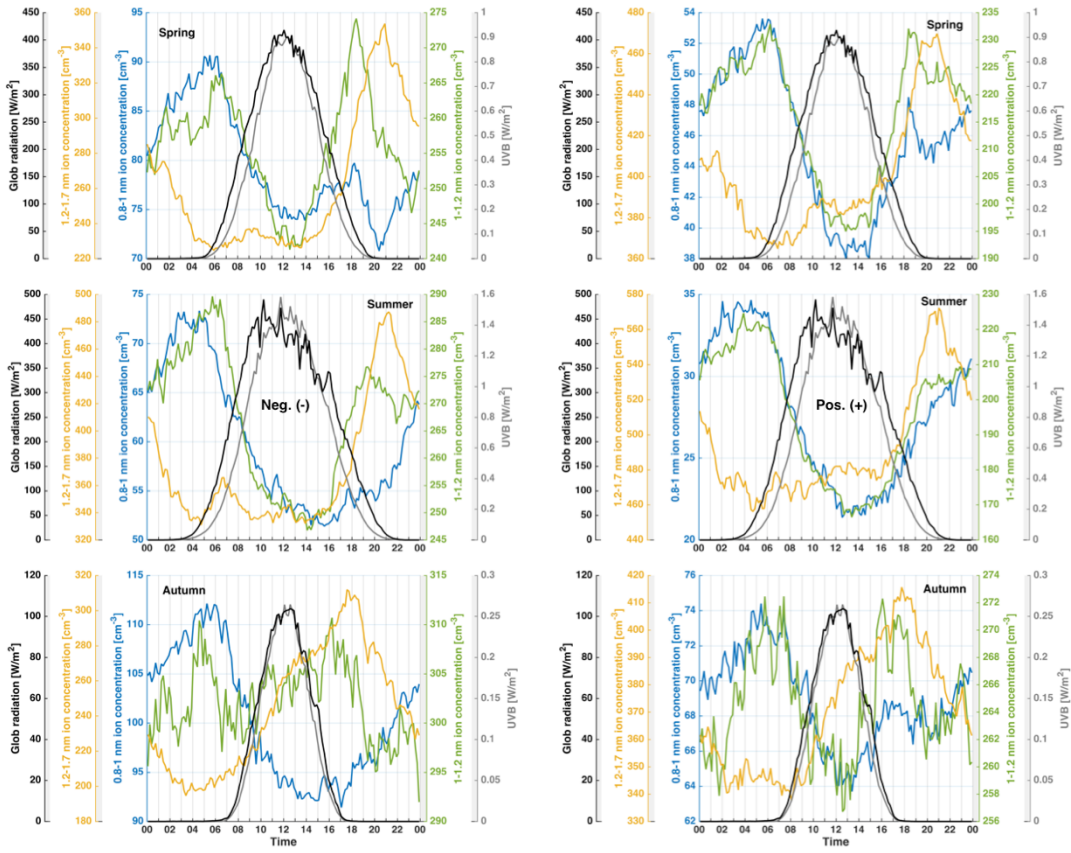
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6 Figure S2. Relationship between the hourly ionising capacity and the 0.8-1 nm ion concentration with  
 7 Spearman's rank correlation coefficients ( $\rho$ ) when the condensation sink (CS) is below 0.001 s<sup>-1</sup>. Upper  
 8 panel: with relative humidity (RH) on the colour scale. Middle panel: with air temperature ( $T$ ) on the  
 9 colour scale. Lower panel: with condensational sink (CS) on the colour scale.

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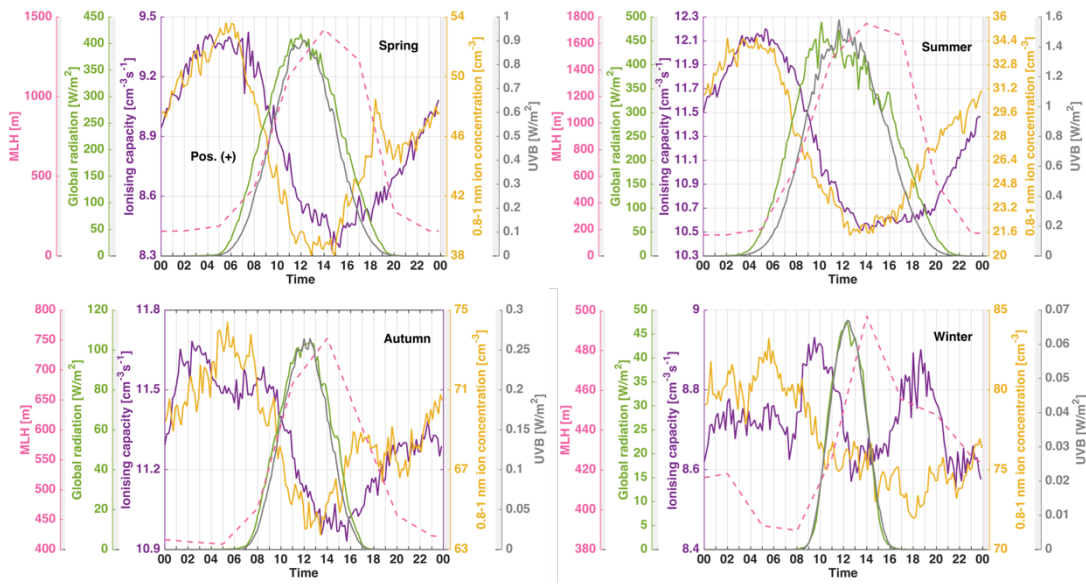


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14 Figure S3. Diurnal relationship between median solar radiation intensities and ion concentrations in 0.8-  
15 1 nm, 1-1.2 nm and 1.2-1.7 nm sub-cluster size ranges in different seasons over 2003-2006.

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19 Figure S4. Diurnal patterns in median 0.8-1 nm positive ion concentrations, ionising capacities, global  
 20 and UVB radiation intensities as well as modelled mixing layer heights (MLH) in different seasons over  
 21 2003-2006.

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