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Supplement of

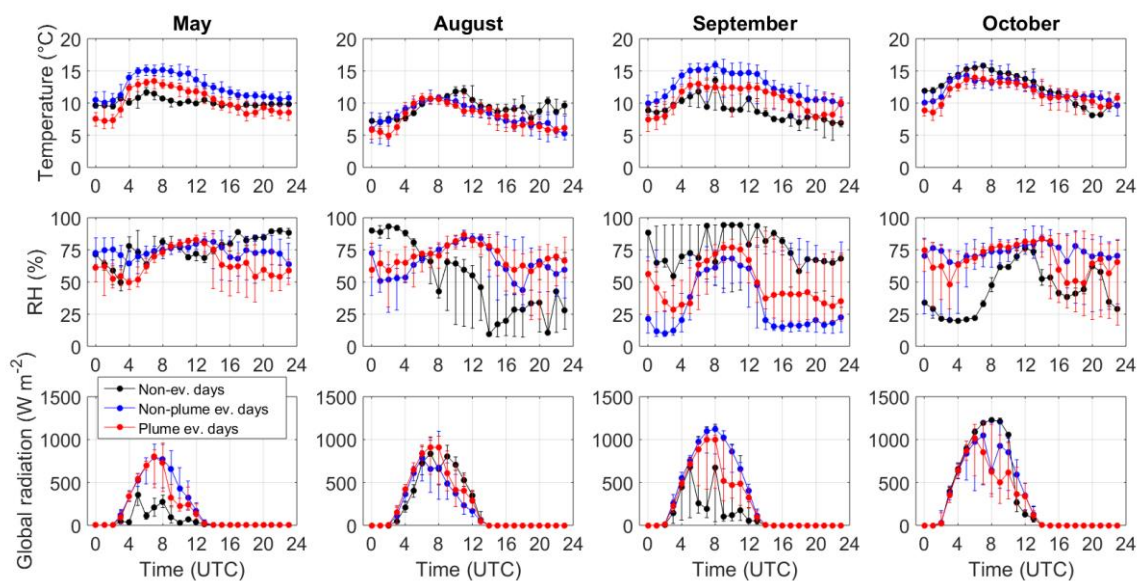
New particle formation in the volcanic eruption plume of the Piton de la Fournaise: specific features from a long-term dataset

Clémence Rose et al.

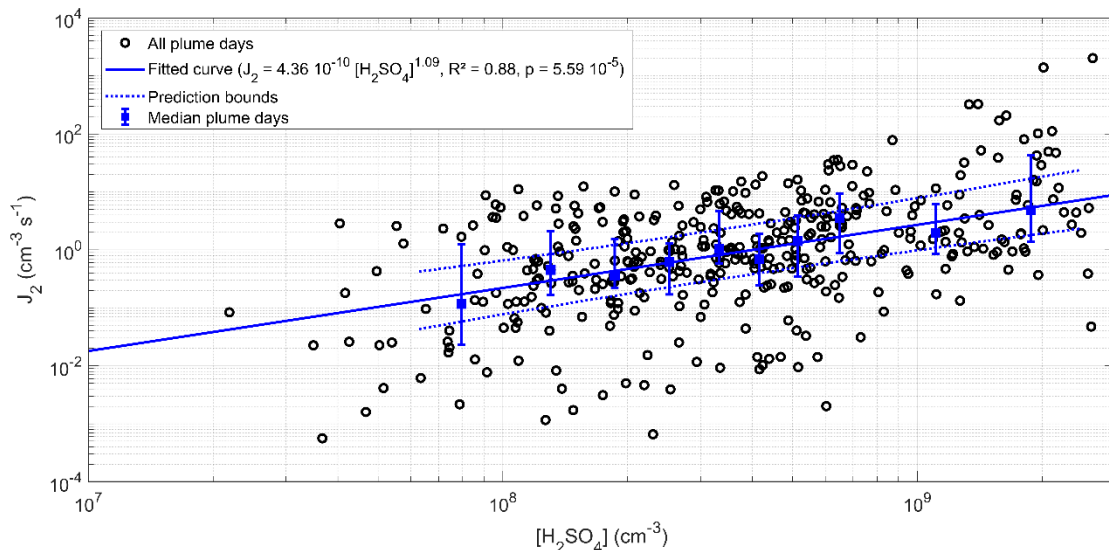
Correspondence to: Clémence Rose (c.rose@opgc.univ-bpclermont.fr) and Karine Sellegri (k.sellegri@opgc.univ-bpclermont.fr)

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10 **Figure S1** Median diurnal variation of RH, temperature and global radiation observed on NPF event days, in and off-plume conditions, and on non-plume non-event days. The lower and upper edges of the error bars indicate 25th and 75th percentiles, respectively.



15 **Figure S2** Correlation between the formation rate of 2 nm particles (J_2) and $[H_2SO_4]$. Data was binned with respect to $[H_2SO_4]$ (10 bins with equal number of points), and the medians (squares) as well as the 25th/75th percentiles (error bars) of J_2 in each bin are presented. The power fit was performed on the median values.

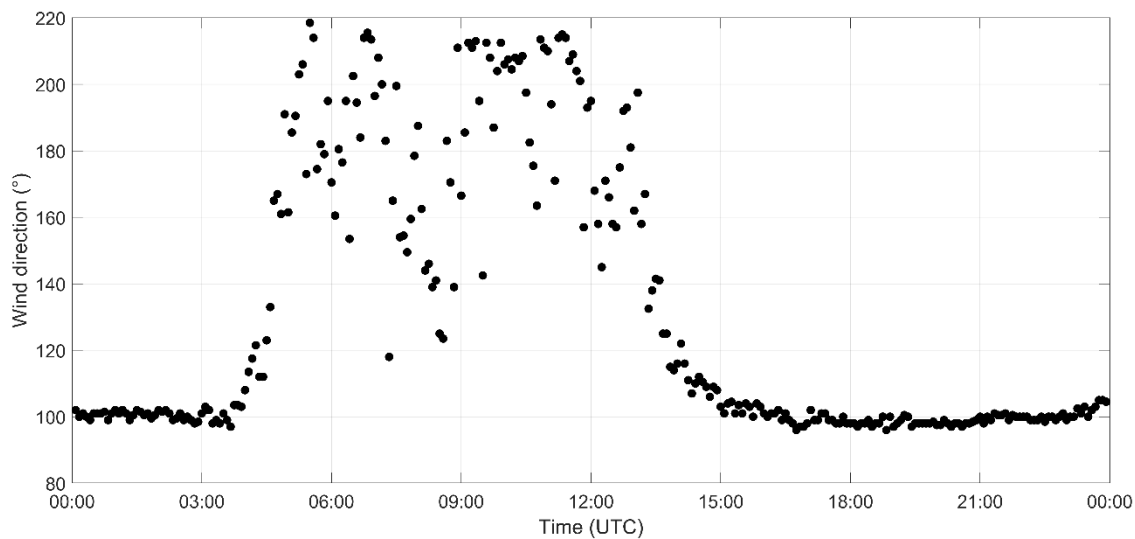


Figure S3 Median diurnal variation of the wind direction measured at Maïdo. All available measurements from 2015 were included in the statistics.

- 5 **Table S1** Effect of the number of bins on both the parameters and goodness of the power fit performed to evaluate the correlation between the formation rate of 2 nm particles (J_2) and $[H_2SO_4]$, as illustrated on Fig. S2.

Number of bins used in the fitting procedure	k	a	R^2	p value
10	4.36×10^{-10}	1.09	0.88	5.59×10^{-5}
20	6.37×10^{-10}	1.07	0.83	2.21×10^{-8}
30	4.49×10^{-10}	1.08	0.76	3.65×10^{-10}