## **SUPPLEMENTARY TO:** INSENSITIVITY OF GLOBAL TEMPERATURE RESPONSE TO THE MAGNITUDE OF **VOLCANIC ERUPTIONS**

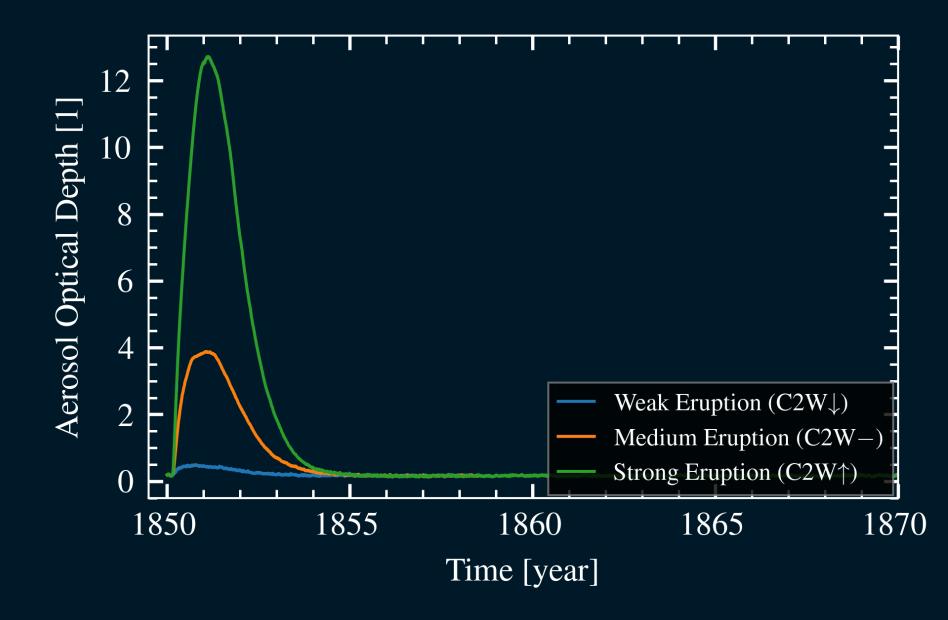
In EGU session "Understanding volcano-climate impacts and the stratospheric aerosol layer"

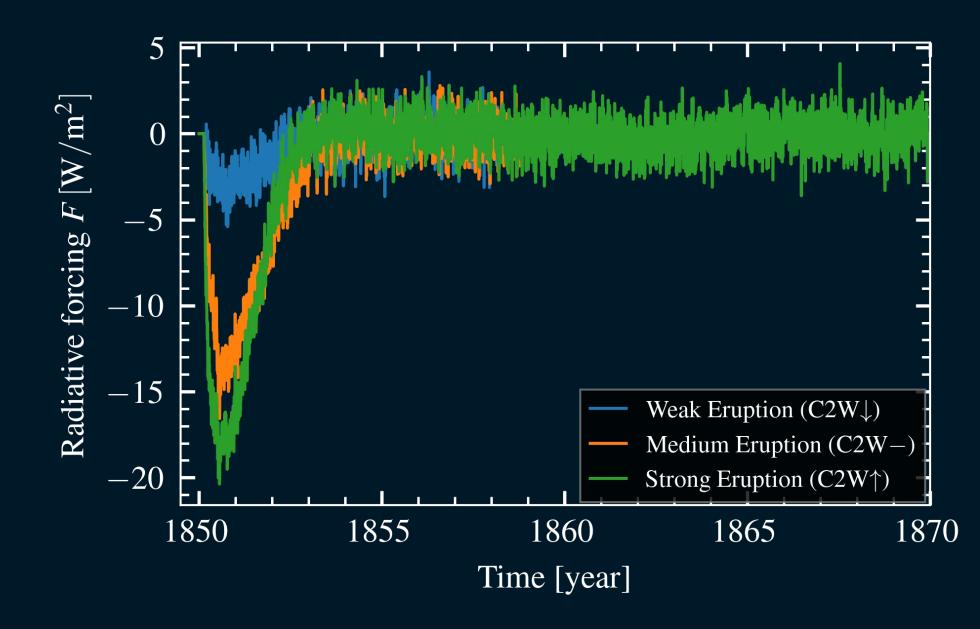


**UiT** The Arctic University of Norway









## Using a linear operator to describe temperature fluctuations:

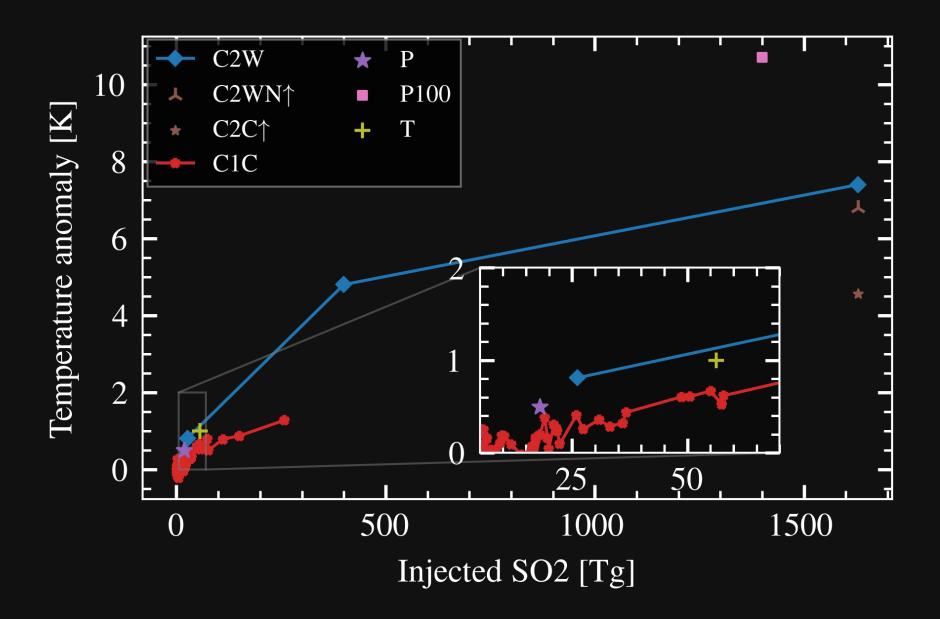
$$\Delta T(t) = \hat{L}[f_K(t)]$$

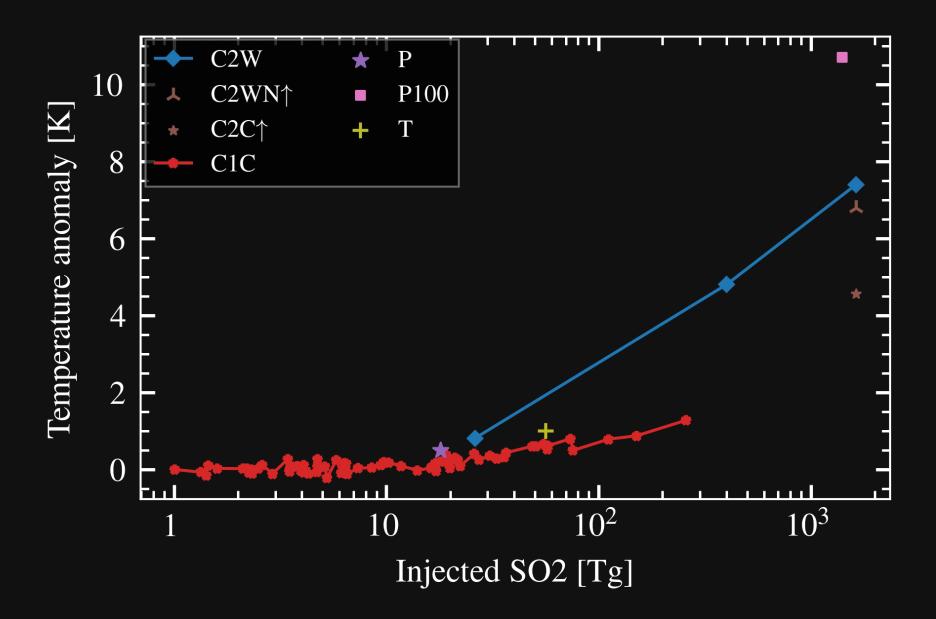
$$\Delta T(t) = \phi * f_K(t) = \phi * \sum_k A_k \delta(t-t_k)$$

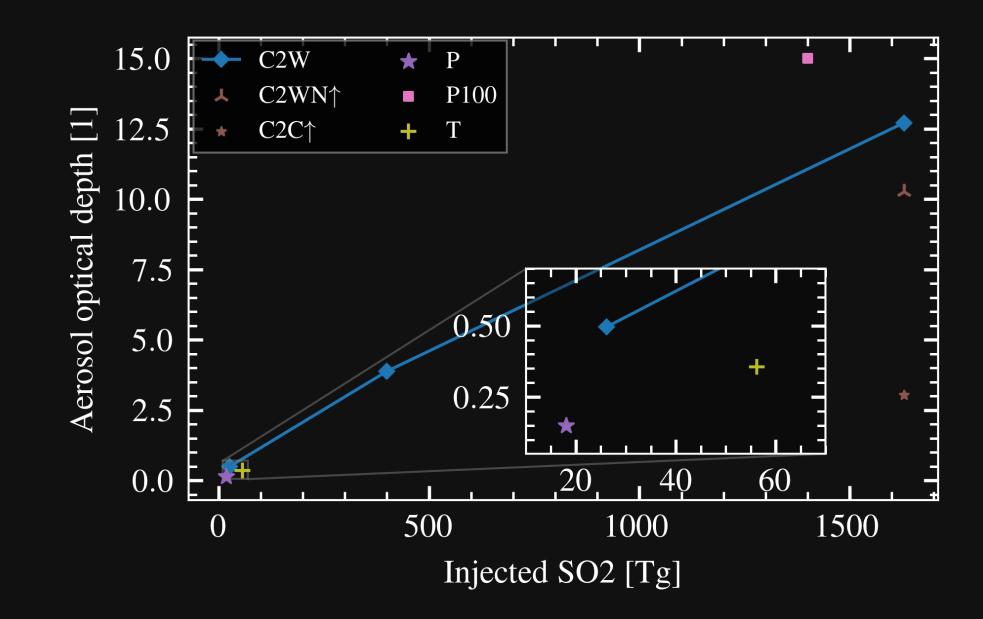
$$\Delta T(t) = \phi * f_K(t) = \phi * \sum_k A_k \delta(t-t_k)$$

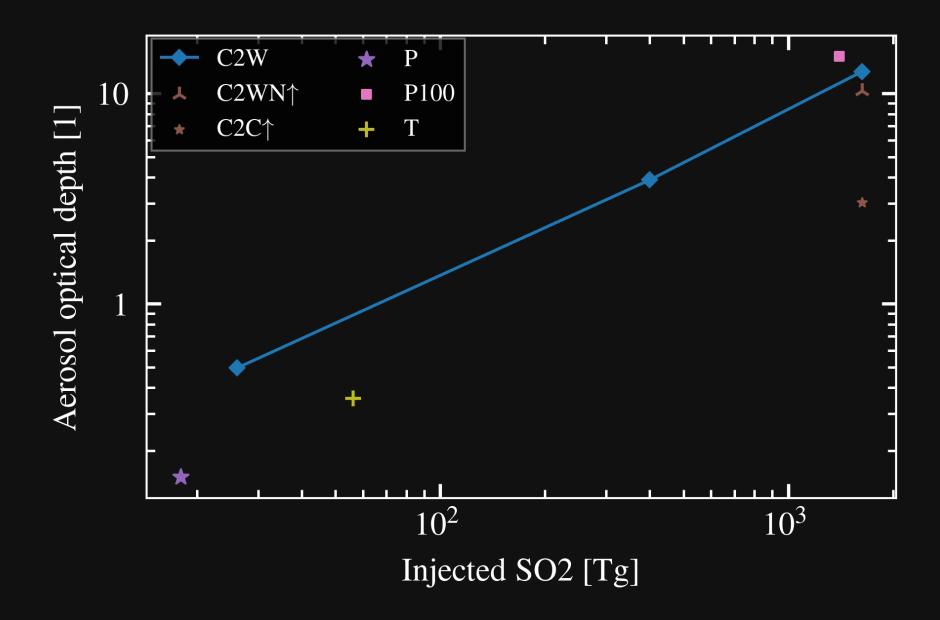
$$A_k \left\{egin{array}{l} rac{?}{=} g(M_k^{ ext{max}}) \ rac{?}{=} M_k^{ ext{max}} \end{array}
ight., M = \left\{egin{array}{l} ext{SO}_2 \left[ ext{Tg} 
ight] \ ext{AOD} \left[ 1 
ight] \ ext{TOA} \left[ ext{W/m}^2 
ight] \end{array}
ight.$$

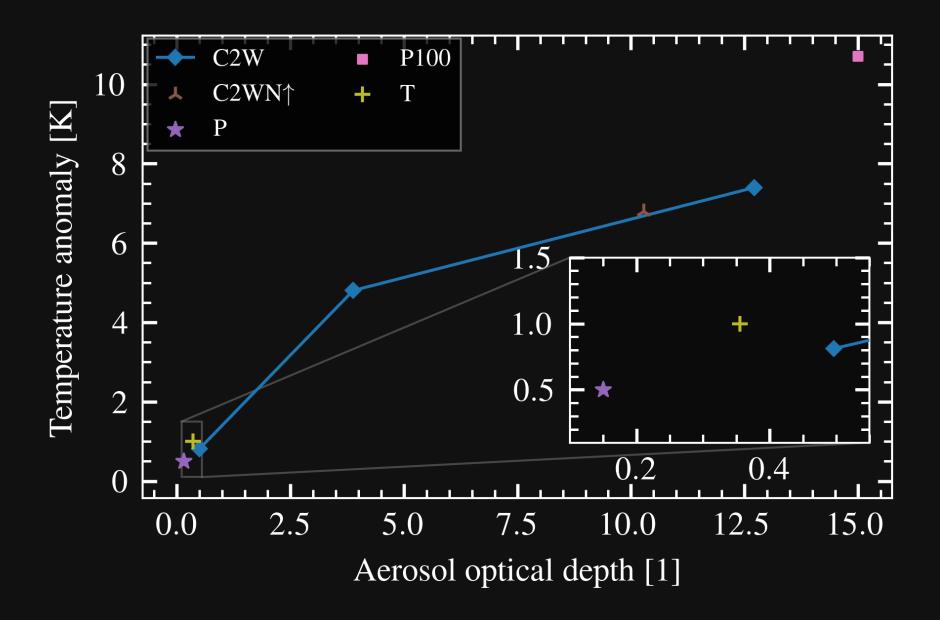
where  $M_k^{
m max}$  is the peak magnitude of event k.

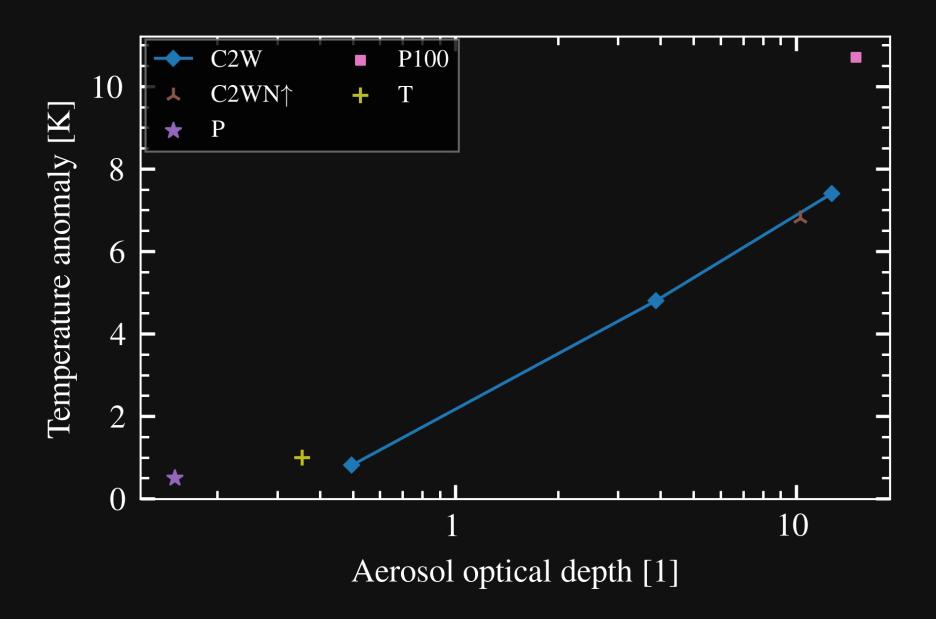


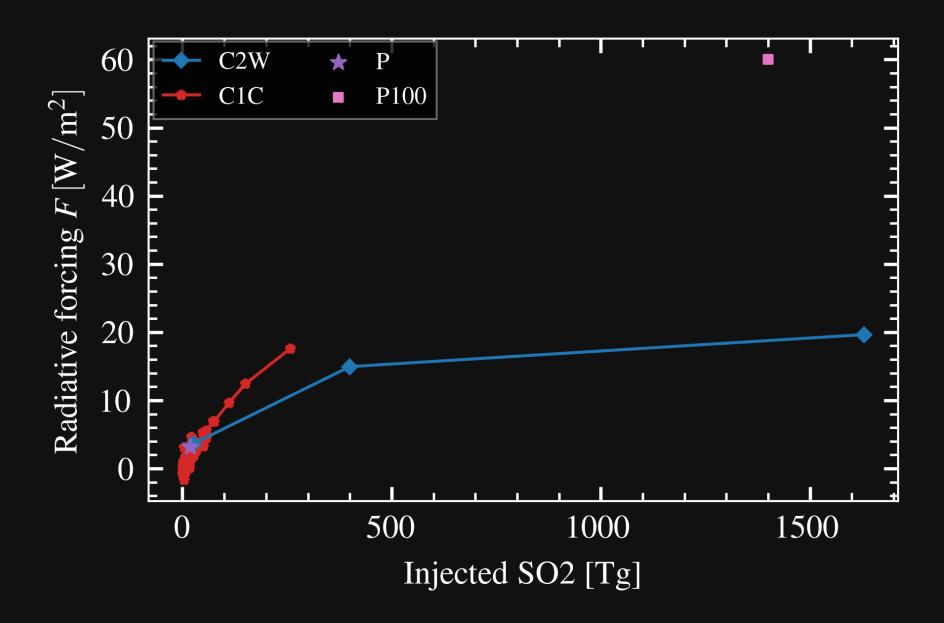


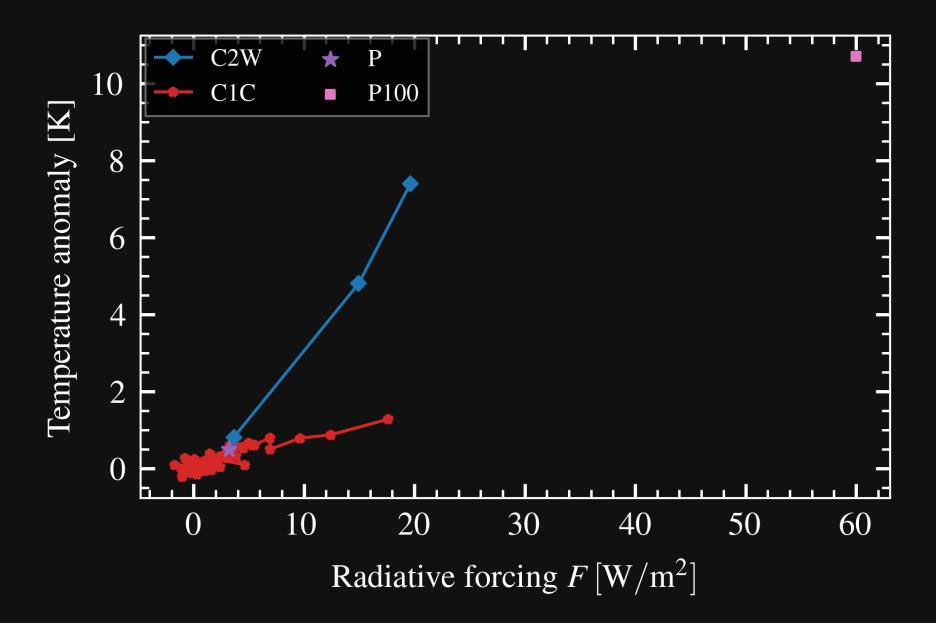


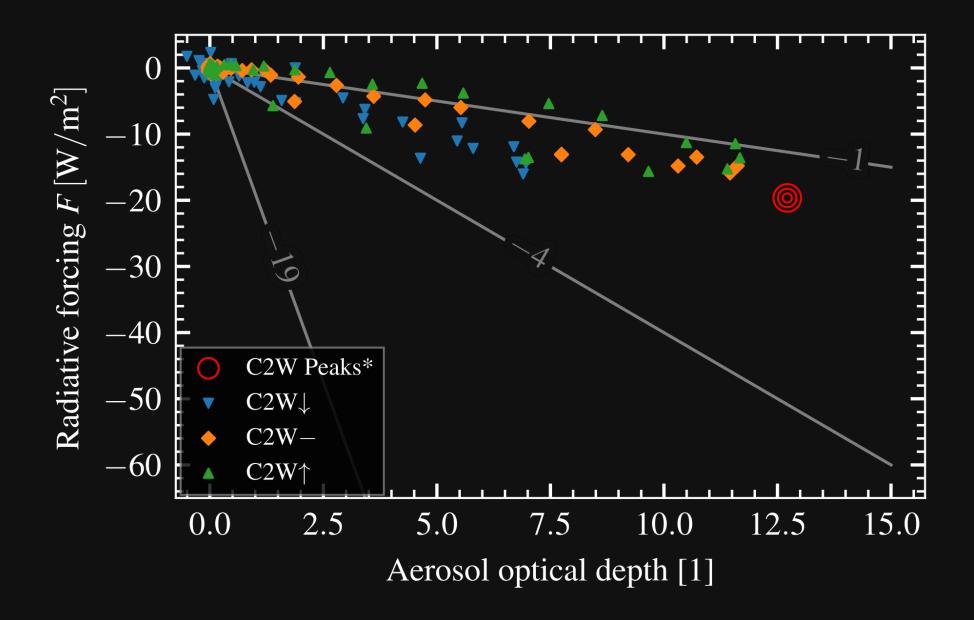












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