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Corrigendum to "The vapor pressure over nano-crystalline ice" published in Atmos. Chem. Phys., 18, 3419–3431, 2018

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After the publication of the original article, an error in the calibration of the time-of-flight mass spectrometer data was discovered; the issue has now been corrected and is described in the following.

In the original article, we presented measurements of the vapor pressure over nano-crystalline ice. The vapor pressure was determined by observing the mass growth rate of nanoparticles exposed to a flux of water molecules emanating from the surface of a nano-crystalline ice sample.

We recently discovered an issue with the calibration for the time-of-flight mass spectrometer data, which was used to determine the nanoparticle mass growth rates. As a result, the inferred vapor pressure values in the original article need to be corrected.

In the article, the vapor pressure of nano-crystalline ice is described in terms of a Gibbs free energy difference. After employing the revised calibration coefficient, the calculated Gibbs free energy difference of nano-crystalline ice relative to hexagonal ice was determined as follows:

$$\Delta G_{n\to h} = 812 \pm 184 \text{ J mol}^{-1}.$$

We note that the corrected value is 17 % smaller and falls within the previously published uncertainty limits and that the recalibrated saturation vapor pressure is in even better agreement with the literature (see corrected Fig. 2). The correction does not impact the overall conclusions drawn in the original article. We updated Fig. 2 to include the updated relative vapor pressure data.

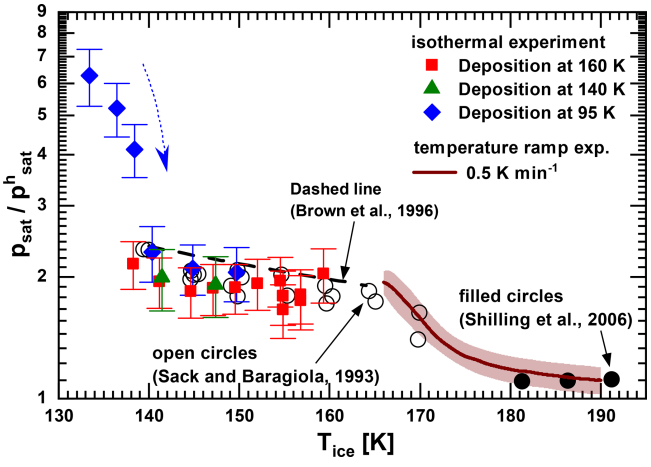

Figure 2. Measured relative saturation vapor pressure of low-temperature-deposited ice with respect to ice Ih as a function of temperature. Green triangles and red squares denote isothermal vapor pressure measurements of ice samples deposited at 140 and 160 K, respectively. Blue diamonds represent a series of subsequent isothermal measurements using a single ice film deposited at 95 K with the arrow indicating the chronology. The brown line is the combined experimental result for the non-isothermal relative vapor pressure measurements of all ice deposited below 150 K (including a shaded interval of uncertainty). For comparison, we show data obtained for crystalline ice from the literature (see text in figure).

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