



Corrigendum to “Technical note: Fundamental aspects of ice nucleation via pore condensation and freezing including Laplace pressure and growth into macroscopic ice” published in Atmos. Chem. Phys., 20, 3209–3230, 2020

Claudia Marcolli

Institute for Atmospheric and Climate Science, ETH, Zurich, Switzerland

Correspondence: Claudia Marcolli (claudia.marcolli@env.ethz.ch)

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Equation (5) of the paper relates the filling level D_p of a conical pore to the radius of the meniscus for a set contact angle θ_{ws} . This equation lacks the dependence on the pore opening angle δ , which becomes important for larger opening angles. Including the opening angle, this equation reads as

$$D_p = -2r_m(T) \cos(\theta_{ws} + \delta). \quad (5)$$

Also in Sect. 5.1, the equations for capillary condensation in conical and wedge-shaped pores do not include the opening angle. These equations including the opening angle read as

$$D_p(T) = \frac{-4\gamma_{vi}(T) v_i(T, P_0) \cos(\theta_{is}(T) + \delta)}{kT \ln \frac{p}{p_i(T, P_0)}} \quad (27)$$

and

$$D_1(T) = \frac{-2\gamma_{vi}(T) v_i(T, P_0) \cos(\theta_{is}(T) + \delta)}{kT \ln \frac{p}{p_i(T, P_0)}}. \quad (28)$$

See the updated Fig. 2 for the definition of δ .

Moreover, there is an error in Eq. (A4). In its corrected form, it reads as

$$\kappa \partial(T) / \partial P = -0.0003805 + 6.639 \times 10^{-6} \cdot (T - 273.15) - 9.688 \times 10^{-8} \cdot (T - 273.15)^2. \quad (A4)$$

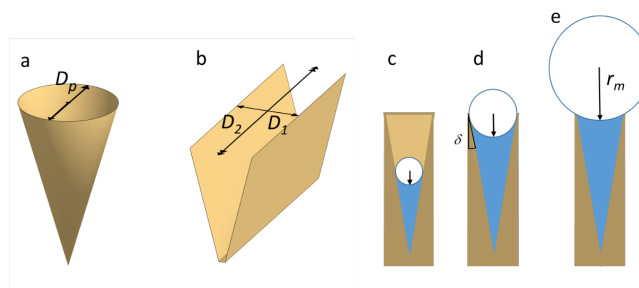


Figure 2. Illustration of pore shapes and pore filling: panel (a) shows an empty conical pore with diameter D_p and panel (b) an empty wedge-shaped pore with a width D_1 and a length $D_2 = \infty$. Panels (c) to (e) show pore condensation with increasing radius of the meniscus for a conical or wedge-shaped pore with pore opening angle δ and assuming complete wetting ($\theta_{ws} = 0^\circ$). The radius of meniscus in a conical or cylindrical pore is denoted r_m and the radius of meniscus in a wedge-shaped pore or trench is denoted $r_1 = D_1/2$, while $r_2 = D_2 = \infty$ (not shown).