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Permeability of polydisperse magma foam

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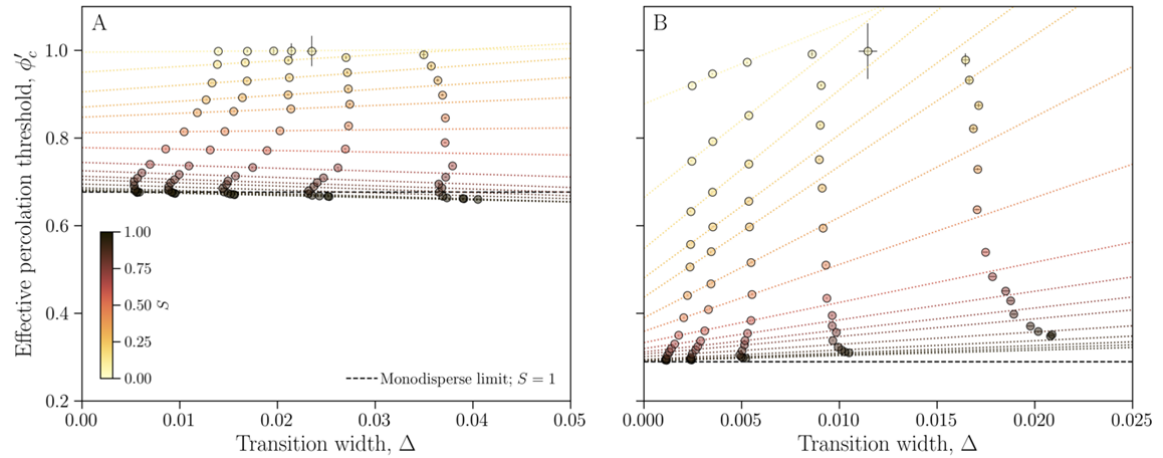
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This Data Repository file contains:

- (1) DR Figure 1: rigorous constraint of the percolation transition in 2D and 3D.
- (2) DR Table 1 with the processed results of our 2D and 3D percolation simulations.
- (3) The full reference list for the data encapsulated in Figure 1, which are given in Jutzeler et al. (2016).

(1) Additional figure



DR Figure 1. The effective percolation threshold against the transition width for (A) the 2D and (B) the 3D case respectively. Both parameters are adjusted using a sigmoidal fit function (see main text) and they are related via the scaling relation $\phi'_c(L) - \phi_c \propto \Delta(L)$ such that fitting a straight line through the points yields the percolation threshold for an infinite domain size ϕ_c (extrapolation to $\Delta = 0$).

(2) Percolation simulation results

DR Table 1. Percolation simulation results.

α	S	ϕ_c	σ_{ϕ_c}
3D			
∞	1.000	0.28934	0.00033
9.00	0.964	0.29084	0.00049
8.00	0.952	0.29130	0.00060
7.00	0.933	0.29221	0.00038
6.00	0.900	0.29464	0.00068
5.00	0.833	0.30069	0.00062
4.50	0.771	0.30653	0.00144
4.25	0.726	0.31149	0.00206
4.00	0.667	0.31921	0.00157
3.75	0.584	0.33274	0.00184
3.50	0.467	0.35856	0.00110
3.35	0.370	0.38957	0.00155
3.25	0.289	0.43644	0.00264
3.20	0.242	0.48050	0.00309
3.15	0.191	0.54737	0.00536
3.10	0.134	0.66393	0.01041
3.05	0.071	0.87725	0.01151
2D			
∞	1.000	0.67630	0.00001
9.00	0.984	0.67842	0.00013
8.00	0.980	0.67907	0.00001
7.00	0.972	0.68020	0.00011
6.00	0.960	0.68219	0.00008
5.00	0.938	0.68617	0.00014
4.00	0.889	0.69466	0.00049
3.50	0.840	0.70474	0.00015
3.25	0.802	0.71245	0.00076
3.00	0.750	0.72501	0.00063
2.75	0.673	0.74392	0.00108
2.50	0.556	0.77768	0.00106
2.35	0.451	0.81180	0.00027
2.25	0.360	0.84715	0.00026
2.20	0.306	0.87006	0.00035
2.15	0.244	0.90482	0.00354
2.10	0.174	0.94967	0.00294
2.05	0.093	0.99537	0.00043

(3) Full reference list for data in Figure 1

The data from Figure 1 originate from published literature (Klug and Cashman, 1994, 1996; Sable et al., 2001; Klug et al., 2002; Gurioli et al., 2005, 2008; Lautze and Houghton, 2007; Carey et al., 2009, 2012; Schipper et al., 2010; Shea et al., 2010a, 2010b, 2012; Giachetti et al., 2010; Houghton et al., 2010; Murtagh et al., 2011; Stovall et al., 2011, 2012; Alfano et al., 2012; Murtagh and White, 2013; Rotella et al., 2014) all of which are cited in Jutzeler et al., (2016).

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