

Supporting Information for the article:

Dynamics and Clogging of colloidal monolayers magnetically driven through an heterogeneous landscape

*Sergio Granados Leyva*¹, *Ralph Lukas Stoop*¹, *Pietro Tierno*^{1,2,3,*} and *Ignacio Pagonabarraga*^{1,2,4}

¹ Departament de Física de la Matèria Condensada, Universitat de Barcelona, Av. Diagonal 647, 08028, Barcelona, Spain.

² Universitat de Barcelona Institute of Complex Systems (UBICS), Universitat de Barcelona, Barcelona, Spain.

³ Institut de Nanociència i Nanotecnologia, IN2UB, Universitat de Barcelona, Av. Diagonal 647, 08028, Barcelona, Spain.

⁴ Centre Européen de Calcul Atomique et Moléculaire, École Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland

*Email: ptierno@ub.edu

SUPPORTING VIDEO FILES.

With the article there are 2 videoclips in support of Fig.1(b,c).

VideoS1(.WMV): This videoclip shows the experimental system where a monolayer of paramagnetic colloids with diameter $d = 2.8 \mu\text{m}$ against larger silica particles (white, diameter $d = 5 \mu\text{m}$) and arranged to form one small opening. The applied rotating magnetic field has amplitude $H_0 = 800 \text{ A/m}$, ellipticity anisotropy $\beta = -0.4$ and angular frequency $f = 27.7 \text{ rad s}^{-1}$. The videoclip corresponds to Fig.1(b) in the article.

VideoS2(.WMV): This videoclip shows a small portion of the numerical simulation system where the paramagnetic colloids (violet circles) are driven against fixed particle (larger green circles). This videoclip corresponds to the inset of Fig.1(c) of the article.