

Supporting Information for the article:

Collective hydrodynamic transport of magnetic microrollers.

Gaspard Junot^a, *Andrejs Cebers*,^b and *Pietro Tierno*^{a c d*}

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

^b MMML Lab, Department of Physics, University of Latvia, Jelgavas-3, Riga, LV-1004, Latvia.

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

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

* E.mail: ptierno@ub.edu

SUPPORTING VIDEO FILES.

With the article there are 3 videoclips in support of Fig.3(b).

VideoS1(.WMV): This videoclip shows the propulsion of the hematite surface micro rollers when driven by a rotating magnetic field with frequency $f = 10$ Hz and amplitude $H = 4400$ A m⁻¹. The videoclip corresponds to the left panel in Fig.3(b) of the article.

VideoS2(.WMV): This videoclip shows the propulsion of the hematite surface micro rollers when driven by a rotating magnetic field with frequency $f = 100$ Hz and amplitude $H = 4400$ A m⁻¹. The videoclip corresponds to the middle panel in Fig.3(b) of the article.

VideoS3(.WMV): This videoclip shows the propulsion of the hematite surface micro rollers when driven by a rotating magnetic field with frequency $f = 300$ Hz and amplitude $H = 4400$ A m⁻¹. The videoclip corresponds to the right panel in Fig.3(b) of the article.