SUPPORTING VIDEOS

With the article there are 4 videoclips as supplements of the figures in the main text.

- **Supplementary movie 1(.WMF):** Dynamics of paramagnetic colloids driven through a disordered landscape composed of silica obstacles. The rotating magnetic field has amplitudes $H_x = 620\text{Am}^{-1}$, $H_z = 950\text{Am}^{-1}$ and angular frequency $\omega = 37.7\text{rads}^{-1}$. The corresponding process is illustrated in Fig. 1(d) of the article.

- **Supplementary movie 2(.WMF):** Jamming of paramagnetic colloids trapped in a dense array of silica obstacles. During the video the are different field reversal but they do no unjam the system. The corresponding process is illustrated in Fig. 2(c) of the article.

- **Supplementary movie 3(.WMF):** Paramagnetic colloids driven through silica obstacles and subjected to field reversal ($H_x \leftrightarrow H_x$) after 32.4s. The applied rotating magnetic field has amplitudes $H_x = 620\text{Am}^{-1}$, $H_z = 950\text{Am}^{-1}$ and driving frequency $\omega = 37.7\text{rads}^{-1}$. The corresponding process is illustrated in Fig. 3 of this supporting information.

- **Supplementary movie 4(.WMF):** Video illustrating the effect of the pair interaction on the system flow. Left shows attractive interactions obtained for $H_x = 1.8H_z$, while right anisotropic repulsive interactions obtained for $H_x = 0.4H_z$. In both videos the external magnetic field has an out-of-plane amplitude $H_z = 950\text{Am}^{-1}$ and a driving frequency of $\omega = 37.7\text{rads}^{-1}$. The area fraction of magnetic colloids (obstacles) is given by $\Phi_m = 0.25$ ($\Phi_o = 0.06$). The corresponding process is illustrated in Figs. 5(a) of the main article.