

Captions for movies:

MOV1: At the beginning of the movie, the initial magnetic particle distribution is shown as the particles were introduced into the fluid chamber and are allowed to sediment. A vertical magnetic field is applied and the magnetic particles become vertically oriented dipoles and mutually repel each other. At the end of the movie, the particles form an approximately hexagonal structure.

MOV2: At the beginning of the movie, a rotating magnetic field (13.7 mT, 0.5 Hz) is applied on a suspension of sedimented magnetic particles to form chain-like aggregates. Next, a disaggregation protocol is executed which consists of applying sequentially (5 Hz) vertical (14.6 mT) and horizontal (13.7 mT) magnetic fields to break down the formed clusters. At the end of the movie, the magnetic particles are homogenously distributed over the bottom surface.

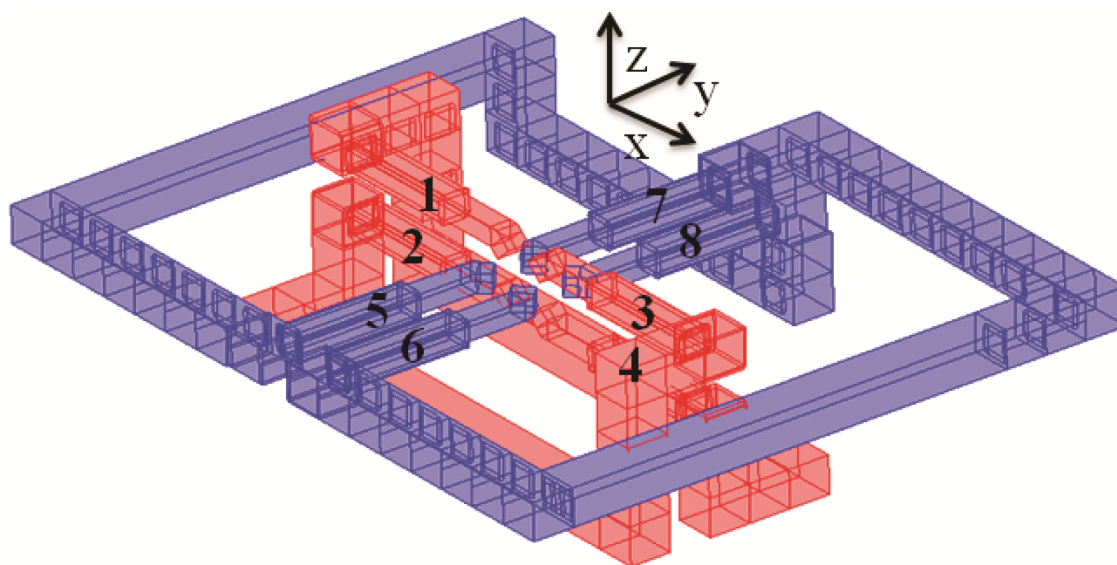


Fig. S1(a)

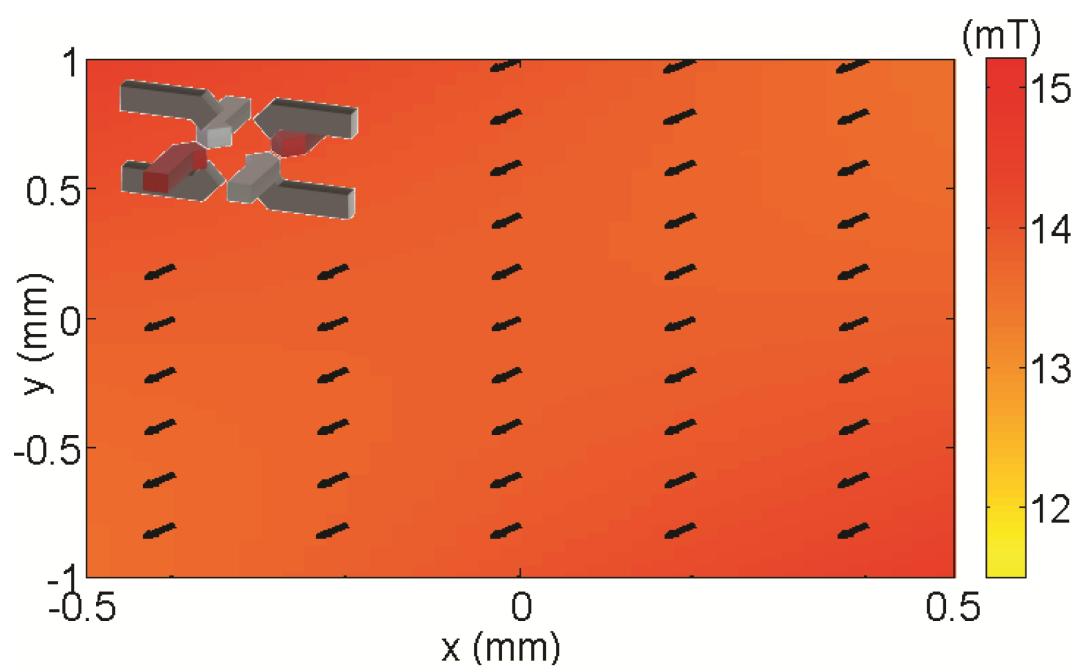


Fig. S1(b)

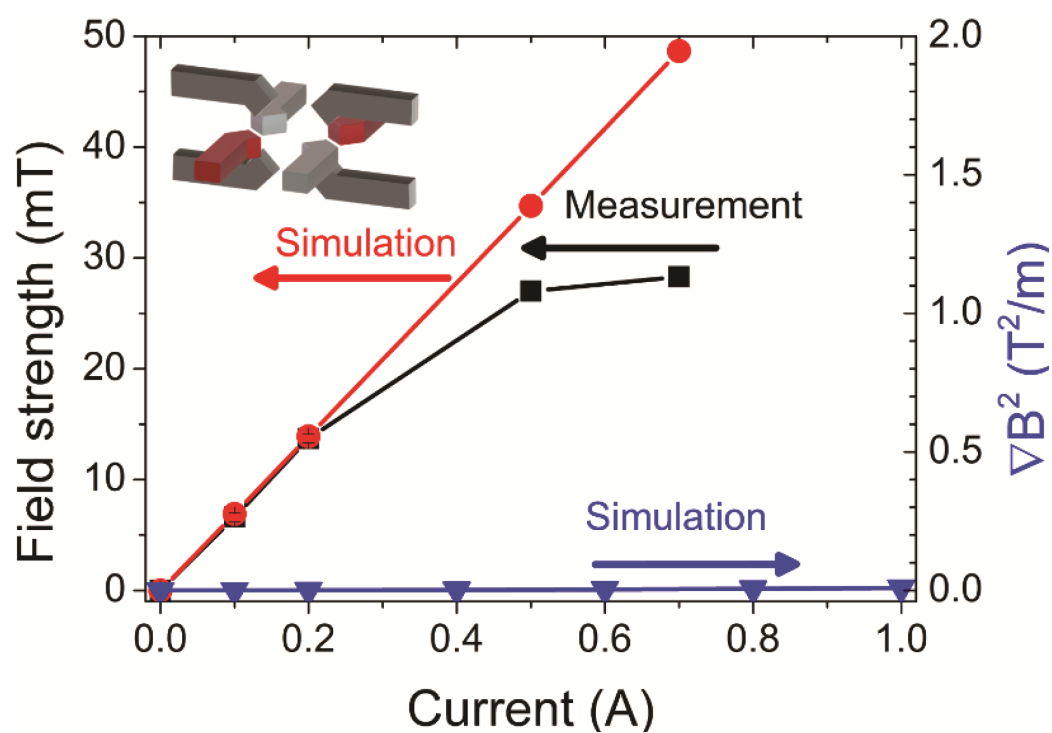


Fig. S1(c)