

Figure S1: Examples of the computationally derived B and ∇B contour plots from the single disk setup. The vertical axes express the vertical distance from the center of the colored circle, while the horizontal axes the horizontal distance. With a rainbow palette, the magnetic flux density results are visualized and with the blue palette the magnetic field gradient calculations. a-b) 1 cm distance from the top surface of the magnets, c-d) 2 cm distance and e-f) 3 cm distance.

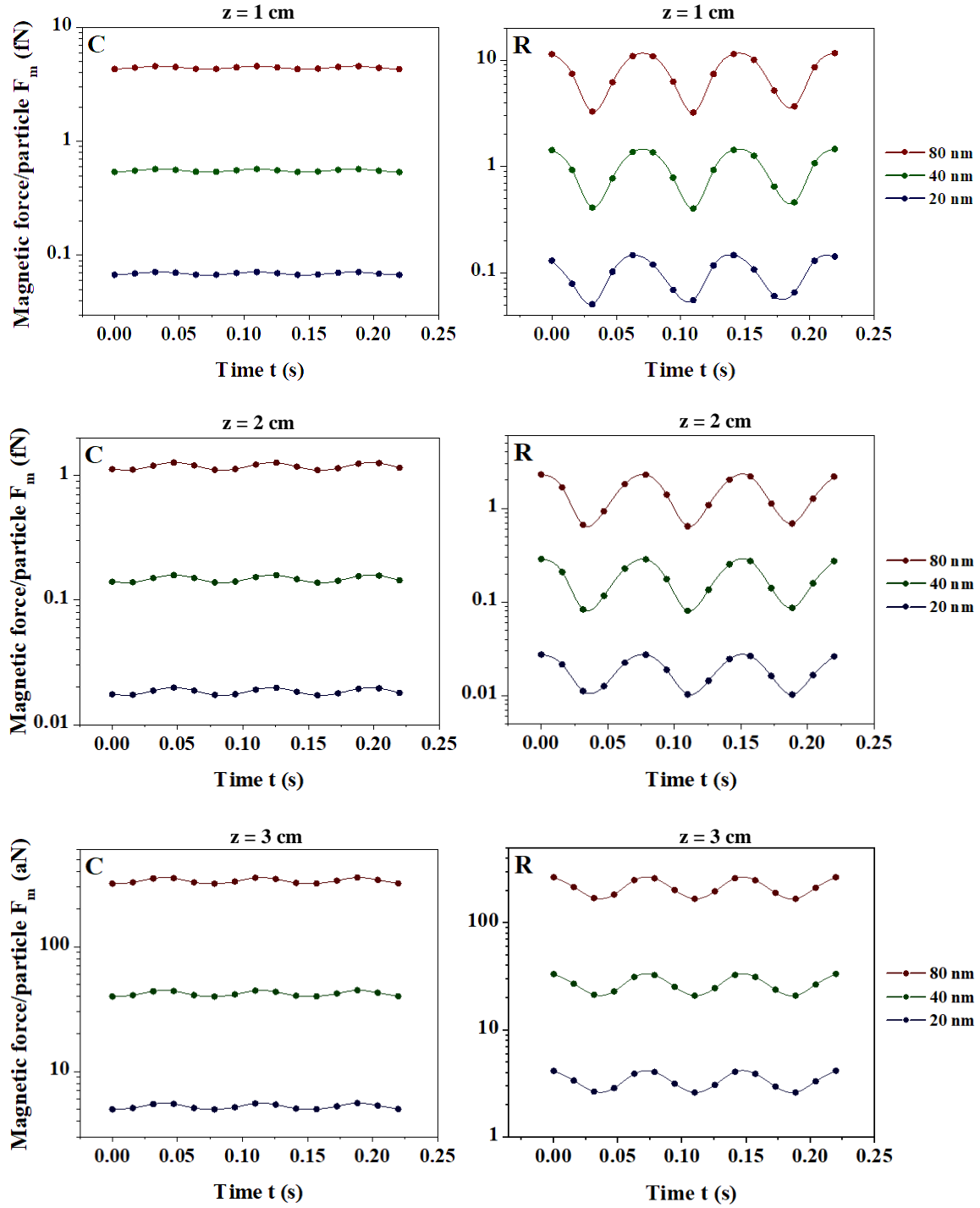


Figure S2: Time evolution of the exerted magnetic forces per ferromagnetic particle of varying size. The curves are at the planes with $z = 1, 2$ and 3 cm. *C* and *R* denote the characteristic points in those planes, the coordinates of whom were given in the previous section.