

Explanation of the animations accompanying the manuscript entitled “Magnetically-actuated artificial cilia for microfluidic propulsion”

In the movies the motion of fluid particles due to the motion of the cilia is shown for uniformly-beating cilia, symplectic and antiplectic metachrony (for a cilia spacing equal to 1.67 times their length). The white circles represent the fluid particles. The contours are the absolute velocity normalised with L/t_{beat} ranging from 0 (blue) to 2 (red). The direction of the velocity is shown using the arrows on the streamlines. The white arrows show the magnetic field experienced by the cilia.

1. closed_loop_loc.wmv -- Motion of fluid particles for synchronous motion of cilia operating in a closed-loop channel.
2. n_6_wk_1_loc_supporting_info.wmv -- Motion of fluid particles for antiplectic metachronal motion of cilia.
3. n_6_wk_m1_loc_supporting_info.wmv -- Motion of fluid particles for symplectic metachronal motion of cilia.