**Title**

Source data for the publication: Curved Surfaces Induce Metachronal Motion of Microscopic Magnetic Cilia

**Description**

This data set contains the source data of the publication: Cui, Z., Islam, T. ul, Wang, Y. & Toonder, J.M.J. den (2024). Curved surfaces induce metachronal motion of microscopic magnetic cilia. ACS Appl. Mater. Interfaces. <https://doi.org/10.1021/acsami.4c06884>. In this paper, we present a novel elegant method that induces metachronal motion of arrays of identical microscopic magnetic artificial cilia by applying a simple rotating uniform magnetic field. The key idea of our method is to place arrays of cilia on surfaces with a specially designed curvature. This results in consecutive cilia experiencing different magnetic field directions at each point in time, inducing a phase lag in their motion, thereby causing collective wave-like motion. We characterize the local flow patterns generated by the motion of the cilia, revealing the formation of vortical patterns. The data are experimentally obtained with methods described in the publication.

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**Format**

Publication: .pdf

Data:.csv

Other: .docx, .txt

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**Organization**

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