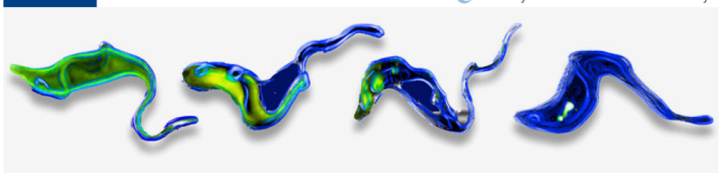

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Chemotactic swimming of two chiral squirmers

In this work, we investigate the synchronous swimming of a pair of self-propelled low Reynolds number swimmers in a chemical field [1]. We observe that the hydrodynamic interaction be- tween the swimmers helps them to reach the chemical target quicker than a single swimmer [1, 2].
We have used the chiral squirmer model [2, 4] to understand the dynamics of the swimmers. The former model swimmer possesses a translational V and an angular velocity Ω. Chiral squirmers exhibit synchronized bounded motion apart from the regular monotonic attraction and repulsion depending on its nature, i.e., puller or pusher type. In bounded motion, they synchronize, approach each other, and separate from each other in a periodic manner [2, 4]. We observe that in a chemical landscape the former synchronized swimming mechanism helps them to reach the chemical target faster. This study is helpful in understanding the collective dynamics of swimmers in a complex environment.

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