

THREE-DIMENSIONAL DIAMAGNETIC PARTICLE FOCUSING IN FERROFLUIDS THROUGH A STRAIGHT MICROCHANNEL

SPEAKER: **DI LI**

Focusing particles into a tight stream is a necessary step prior to counting, detecting and sorting them. In this work, a new approach for continuous focusing diamagnetic particles into a single stream in ferrofluids is developed by simply placing a permanent magnet on the top of the straight microchannel. The diamagnetic particles will move towards lowest magnetic field region within the channel filled with ferrofluids, leading to a three-dimensional focusing near the bottom of the channel. A systematic study of various parameters such as flow rate, particle size, ferrofluids concentration and channel aspect ratio on the particle focusing was carried out.

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