



Showcasing research from the group of Prof. Jie Li at Wuhan University of Technology, China

Ion current rectification properties of non-Newtonian fluids in conical nanochannels

Li's group is working on electrically driven flow in micro/nanochannels. This work investigates the ion current rectification properties of non-Newtonian fluids in conical nanochannels. When the EDLs overlap ($\kappa R_t = 1$), the rectification effect becomes weaker as the power-law index increases. However, when the EDLs do not overlap ($\kappa R_t = 6$), the rectification effect of the shear-thinning and shear-thickening fluids is worse than that of the Newtonian fluid. These findings have positive implications for the construction of nanodevices such as nanofluidic diodes.

As featured in:



See Jie Li *et al.*,
Phys. Chem. Chem. Phys.,
2024, **26**, 2895.