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Electrohydrodynamic manipulation of particles on drop surfaces[1]

EDISON AMAH, KINNARI SHAH, IAN FISCHER, PUSHPENDRA SINGH, NJIT — We have recently shown that particles adsorbed on the surface of a drop can be self-assembled at the poles or the equator of the drop by applying a uniform ac electric field, and that this method can be used to separate on the surface of a drop those particles experiencing positive dielectrophoresis from those experiencing negative dielectrophoresis. In this talk we show that the frequency of the electric field is an important parameter which can be used to modify the intensities of the dielectrophoretic and the hydrodynamic-flow induced forces, and thus control the distribution of self-assembled monolayers.

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