

MICROGRAVITY SCIENCES AND PROCESSES (A2)
Fluid and Materials Sciences (2)

Author: Prof. Jamal Yagoobi
Illinois Institute of Technology, United States, yagoobi@iit.edu

ELECTRICALLY DRIVEN FLOWS IN LARGE AND SMALL SCALES

Abstract

Electrically driven flows can provide significant enhancements to current and future technologies that can benefit from increased heat transfer and mass transport capacities in macro, micro, and nano scales. Electrically generated flows, with and without phase-change, are particularly suited for micro-gravity and outer space applications. Select theoretical, numerical, and experimental results of electrically driven dielectric liquids and liquid films, in the presence and absence of phase change, will be presented.