

Description of Additional Supplementary Files

Supplementary Video: 3D animated render of water management. LBM simulations of water management within the super-resolved and multi-label segmented PEMFC during Free-Flow, Dead-Ended, and Purge operating conditions. The influence of MPL, GDL, and gas channel geometry and alignments are visually apparent, and the wide FOV with fully resolved micro-scale structures allows capturing of non-local flow phenomena.