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Transient response at the microchannel-nanochannel interface: chronopotentiometry, chronoamperometry, and electrochemical impedance JARROD SCHIFFBAUER, YOAV GREEN, SINWOOK PARK, GILAD YOSSIFON, Technion Israel Institute of Technology — Transient response of the interface between a permselective membrane and electrolyte has been studied both theoretically and experimentally in the context of several well-developed electrochemical measurement paradigms. However, such studies of the microchannel-nanochannel interface are conspicuously lacking. One of the fundamental distinctions between the two types of system is the role of convective transport normal to and through the nanochannel. Here we present several recent experimental and theoretical results concerning the transient response of the microchannel-nanochannel interface to a variety of input signals and discuss the relevance of these results in terms of both fundamentals and applications.

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