
By integrating the Navier-Stokes equations for fluid dynamics with the Nernst-Planck equation for ionic transport, and the Poisson equation for electric fields, this model aims to provide a ...

Shunt currents in membrane-less soluble-lead-redox-flow-batteries (SLRFB) are observed in open-circuit condition and found to depend on size of the stack, manifolds, flow ...

test impact in the shunt currents, particularly the manifold electrical resistance. Based on these findings, a novel redox flow battery stack design, with a high manifold resistance and a...

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The methodology allows identifying the primary factors affecting shunt currents, such as membrane permeability, electrode porosity, and flow channel design. These results ...

of Industrial Engineering, University of Padua, Via Grandenigo 6a Padova, 35131, Italy Abstract Shunt currents are elusive effects occurring in stacks of flow batteries which received partial ...

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Shunt currents are affected by cell number in a single stack, stack number, dimensions of flow channels. In this study, a mathematical model is developed to determine shunt currents in a ...

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