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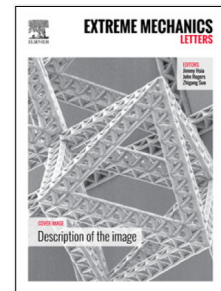
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**Practical Considerations for Reliable Stress and Oxygen Surface Exchange Coefficients
from Bilayer Curvature Relaxation Measurements**

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Abstract

The curvature relaxation technique is a new electrode-free method for simultaneously measuring a material's chemical oxygen surface exchange coefficient and stress state under controlled atmosphere and temperature conditions. Provided certain conditions are met, this *in situ* / *in operando* technique can be used to accurately measure the oxygen surface exchange coefficients and stress states of dense, porous, thin, or thick film oxygen exchange materials. The present paper provides a detailed, practical discussion of these conditions and compares the curvature relaxation technique to alternative oxygen surface exchange coefficient measurement approaches.

Keywords

Oxygen Surface Exchange; Curvature Relaxation; Chemical Strain; Chemical Stress; Mechano-Chemical Coupling; Thin Film; Mechano-Chemically Active;

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