



**Showcasing research from Professor Shao's group,  
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Performance deviation analysis and reliability improvement during experimental development of lab-scale solid oxide single cells

To ensure a smooth transition from research to application, improving the reliability of solid oxide cell (SOC) performance data from lab-scale investigations is crucial. In this work, we conducted a comprehensive analysis of the key steps in lab-scale SOC testing, investigating potential performance-influencing parameters and elucidating the interactions between various setup methods and their impacts on results. Based on these insights, we provided valuable recommendations to guide the future development of SOC at the laboratory scale. We would like to acknowledge author Zhixin Luo for the artwork design.

**As featured in:**



See Zongping Shao *et al.*,  
*Energy Environ. Sci.*, 2024, **17**, 6873.