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## **【721】 Correlation between O-vacancies and electrochemical activity of $\text{PrBaCo}_2\text{O}_{5+x}$ ( $0.17 \leq x \leq 0.79$ )**

*Wednesday 28 August 2019 19:00 (1 minute)*

Cobalt-based layered perovskites have emerged as promising electrocatalysts for the oxygen evolution reaction (OER), but fundamental questions regarding the design principles for highly active perovskite electrocatalysts are still open. A recent study demonstrated that oxygen vacancies play a critical role in the OER mechanism and on the perovskite electrochemical activity.

Double perovskite oxides, such as  $\text{PrBaCo}_2\text{O}_{5+x}$  (PBCO), are able to incorporate large amounts of oxygen vacancies with high oxygen mobility. We combine high-resolution neutron and X-ray diffraction, XAS, magnetic and electrochemical analysis to understand the correlation between catalyst activity and oxygen vacancy amount and distribution.

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