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Highly-conductive proton-conducting electrolyte membranes with a low sintering temperature for solid oxide fuel cells

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Abstract

The microwave sintering strategy was for the first time adopted to prepare proton-conducting electrolyte membranes for solid oxide fuel cells. The preparation of a dense proton-conducting $\text{BaCe}_{0.7}\text{Zr}_{0.1}\text{Y}_{0.2}\text{O}_{3-\delta}$ (BCZY) electrolyte membrane can be achieved at 1200 °C with the microwave sintering method. In sharp contrast, a BCZY sample prepared at 1200 °C using the conventional thermal sintering method

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