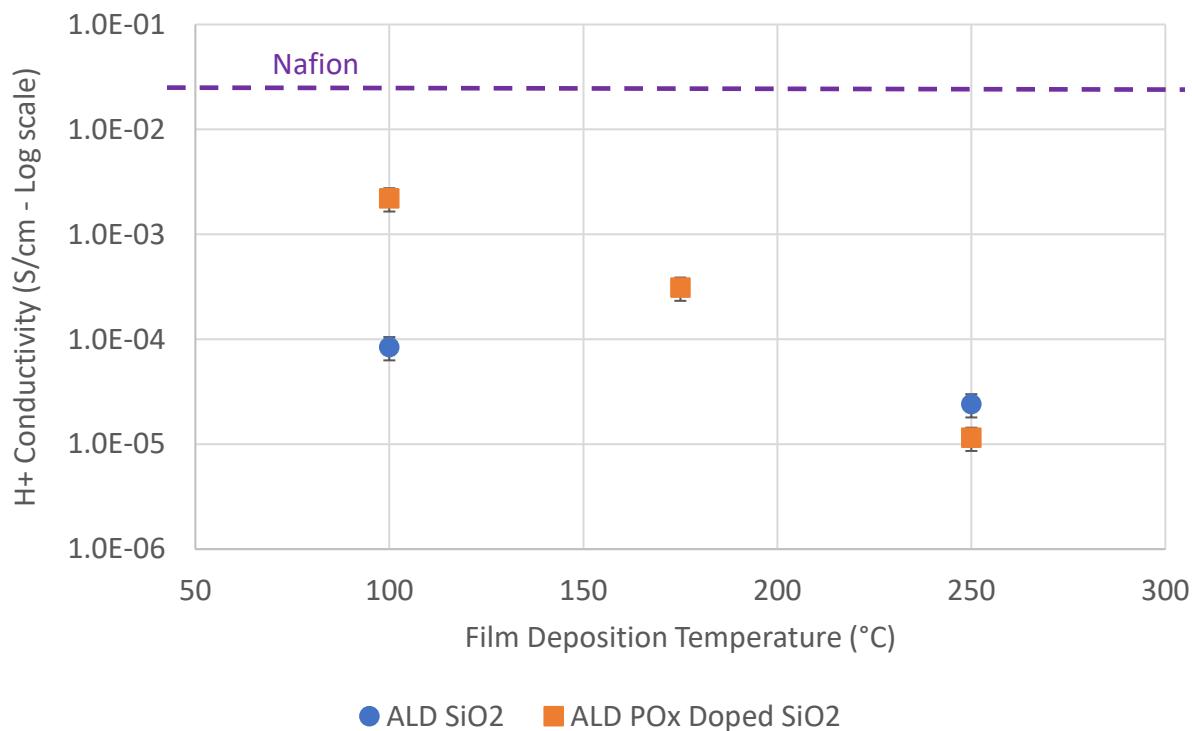


Phosphite Doping of ALD SiO₂ Membranes Significantly Enhances Proton Conductivity for PEM Water Electrolysis

Figure 1: H⁺ Conductivity of ALD SiO₂ (blue, circle) and ~0.5% PO₄⁻³ doped SiO₂ (orange, square) on a log scale with respect to film deposition temperature. The measured H⁺ conductivity for a spin coated Nafion ionomer thin film, thickness of 212nm, is shown by the purple dashed line.



References:

1. Han, et al., Int. J. Hydrogen Energy, 40, 2015
2. Babic, et al., J. Electrochem. Soc., 164 (4), 2017
3. Cohen, et al., DOI:10.26434/chemrxiv-2024-qp2rs
4. Henderick, et al., Appl. Phys. Rev. 9, 011310, 2022
5. Prakash, et al., J. Pow. Sources, 175, 2008
6. Ito, et al., Int. J. Hyd. Ener., 36 (17), 2011