Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information

YSZ thin films with minimized grain boundary resistivity

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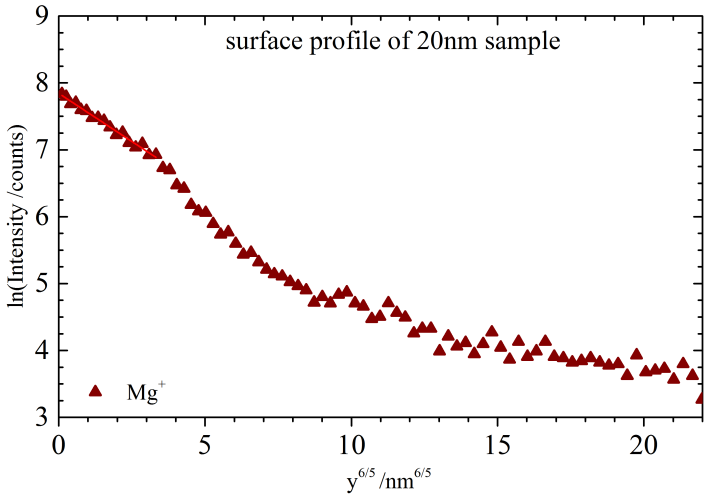
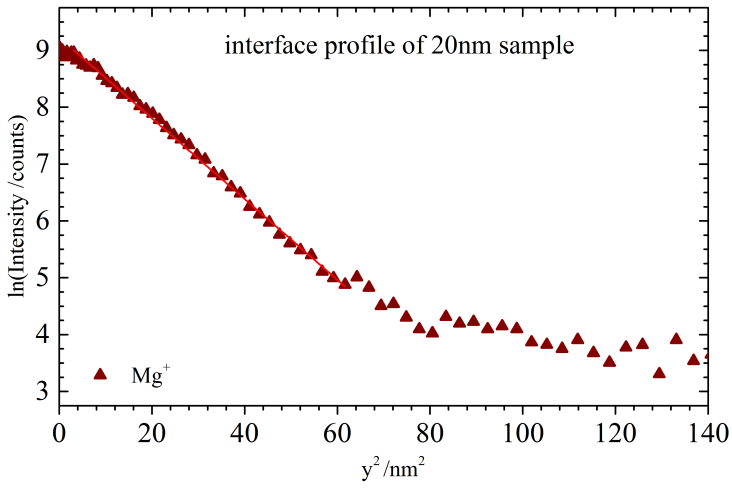
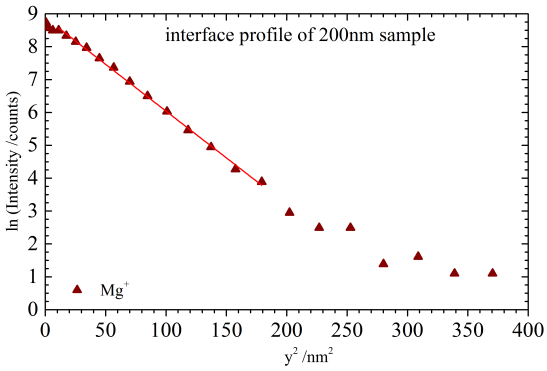


S1: Natural logarithm of the Mg^+ intensity vs. $y^{6/5}$, of the 20nm thick YSZ thin film on MgO. y is the diffusion depth away from the surface of the sample. The linear region corresponds to grain boundary diffusion.



S2: Natural logarithm of the Mg^+ intensity vs. y^2, of the 20nm thick sample. y is the diffusion depth away from the interface (here corresponding to 0nm). The dependence of intensity on depth suggests bulk diffusion.



S3: Natural logarithm of the Mg^+ intensity vs. y^2, of the 200nm thick sample. y is the diffusion depth away from the interface (here corresponding to 0nm). The dependence of intensity on depth suggests bulk diffusion.