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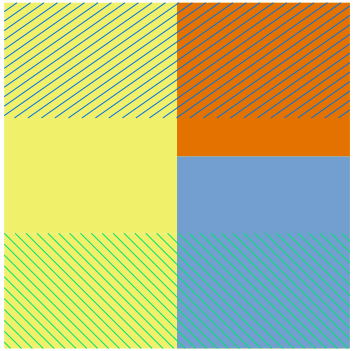
Impact of the strontium content on the performance of $Bi_{1.5}Er_{0.5}O_3/La_{1-x}Sr_xMnO_3$ composite electrodes for low temperature SOFCs

E-MRS spring meeting – G.Mo.Poster.9
May 31st 2021

Context of the study

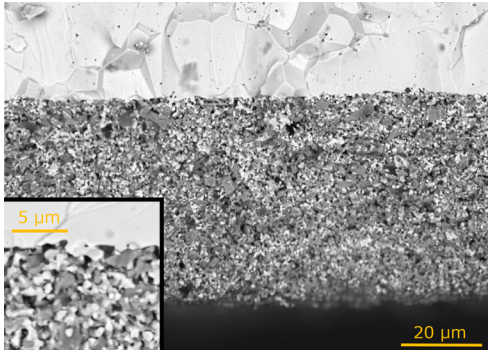
Waschman full cell + optimisation



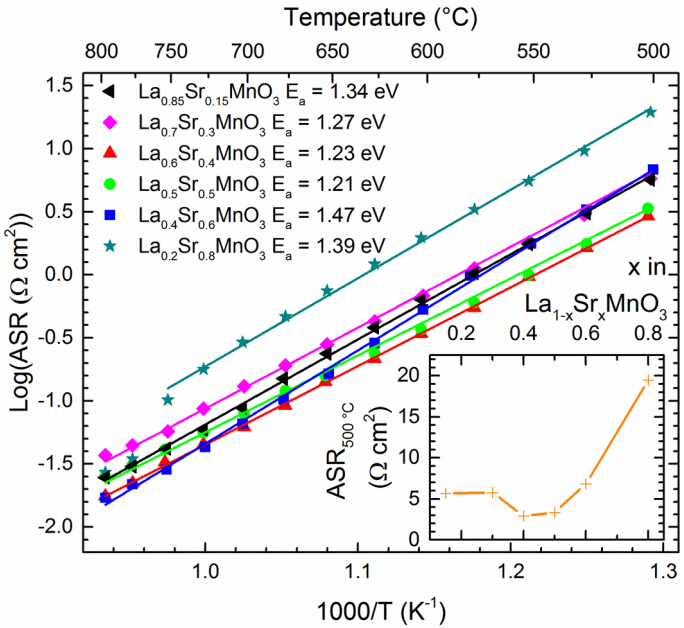
Std HT material is La0.8Sr0.2MnO3

- ➔ Typical deactivation is SrO segregation
- ➔

Methodology



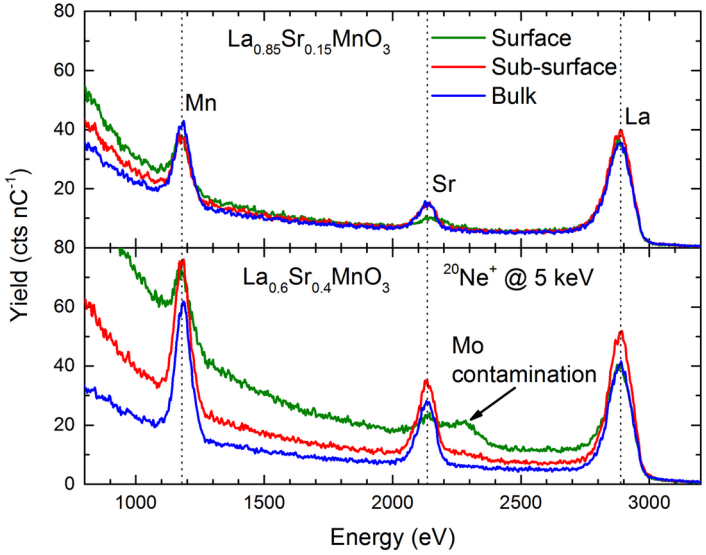
Composition	δ	Spc. Grp.	a (Å)	b (Å)	c (Å)	TEC×10^6 (K^{-1})	σ@500 °C (S cm^{-1})	Avg. Mn Ox. Sate
$La_{0.85}Sr_{0.15}MnO_{3+\delta}$	0.09	$R\bar{3}c$	5.53551(5)		13.3694(2)	14.9	117	3.7
$La_{0.7}Sr_{0.3}MnO_{3+\delta}$	0.02	$R\bar{3}c$	5.5092(5)		13.371(1)	12.8	131	3.7
$La_{0.6}Sr_{0.4}MnO_{3+\delta}$	0.03	$R\bar{3}c$	5.4912(4)		13.361(1)	13.3	235	3.5
$La_{0.5}Sr_{0.5}MnO_{3+\delta}$	< 0.01	*Pnma*	5.4650(3)	7.6917(4)	5.4825(3)	14.1	215	3.5
$La_{0.4}Sr_{0.6}MnO_{3+\delta}$	<0.01	*Pnma*	5.4670(2)	7.6732(1)	5.471(2)	13.6	474	3.4
$La_{0.2}Sr_{0.8}MnO_{3+\delta}$	<0.01	*Pnma*	5.4561(1)	7.6369(1)	5.4327(1)	14.5	86	3.2

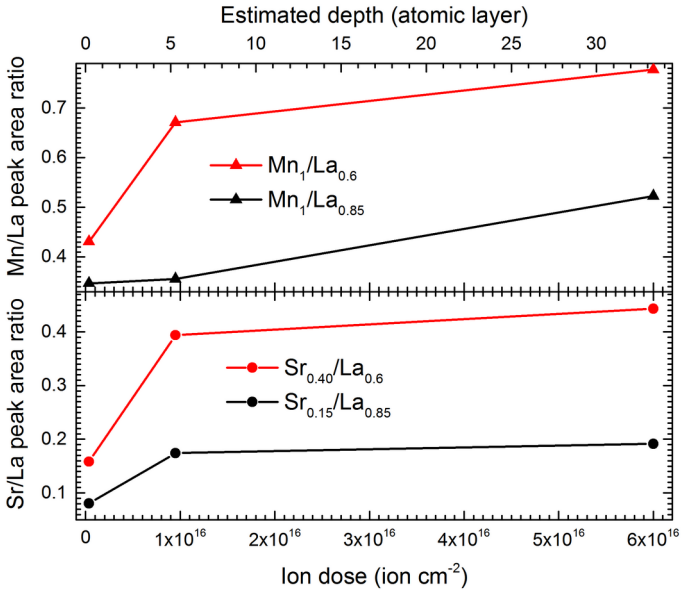


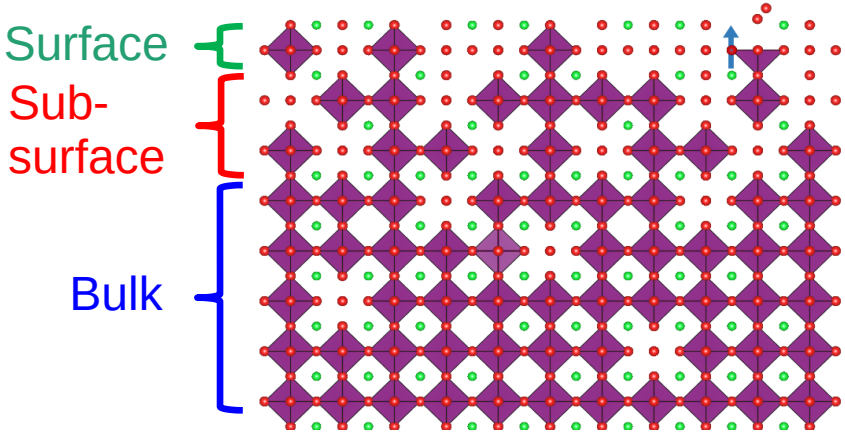
Discussion

$La_{1-x}Sr_xMnO_{3+\delta}$

$(La_{1-x}Sr_xMn)_{1-y}O_3$







Acknowledgments