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Electric properties of $Li_{2-2x}Sr_xZrO_3$ solid solutions

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Abstract

The novel lithium-conductive solid electrolytes based on the $Li_{2-2x}Sr_xZrO_3$ lithium metazirconate have been synthesized as a result of carried out experiments. The transport properties of the $Li_{2-2x}Sr_xZrO_3$ solid solutions have been studied. The strontium implementation into the lithium sublattice, unlike $Li_{8-2x}Sr_xZrO_6$ solid solution, was found to decrease the $Li_{2-2x}Sr_xZrO_3$ conductivity. Possibly, it occurs due to disorder of the lithium cations migration ways. Practical resistance of the $Li_{2-2x}Sr_xZrO_3$ ceramics to molten lithium has been investigated.