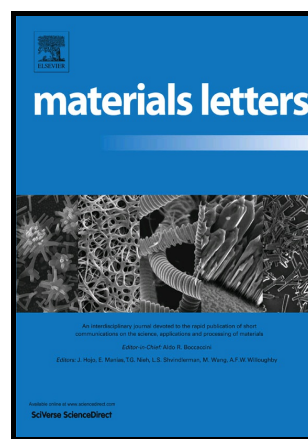


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Thermally stable Ag@ZrO₂ core-shell via atomic layer deposition

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ABSTRACT

We investigated the microstructures and electrical properties of thermally stable ZrO₂-coated Ag nanowires (NWs) under high temperatures of up to 600 °C. Although the ZrO₂-coating layers on the Ag NWs were sub 1 nm (<10 cycles), we confirmed that the thermal stability of the Ag NWs was excellent even at the high temperature of 600 °C. After annealing at 600 °C, the sheet resistance of ZrO₂-coated Ag NWs was extremely low (25 Ω/sq), while the sheet resistance of initial Ag NWs was very high (~1587 Ω/sq) due to the agglomeration phenomenon of Ag NWs.

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