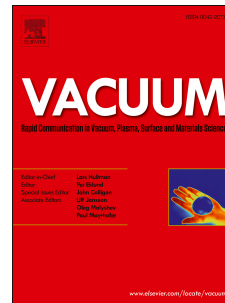


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The novel preparation method of high-performance thermochromic vanadium dioxide thin films by thermal oxidation of vanadium-stainless steel co-sputtered films

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Abstract

The preparation of high-performance thermochromic vanadium dioxide films and the assurance of its batch-to-batch uniformity is technically difficult since the oxidation number of vanadium ranges from +2 to +5 under various reducing or oxidizing atmospheres at elevated temperatures. In this work, the vanadium dioxide films were fabricated by thermal-oxidation of vanadium and stainless-steel (mainly containing Fe, Cr, Ni) co-sputtered thin films at elevated temperature under air atmosphere. The

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