

## EFFECT OF TRIMMING ON THE STRUCTURE OF NiCr THIN FILMS

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### Abstract

The exact matching of NiCr thin film resistors can be made by trimming using current pulses. The effects of current pulses — by several orders of magnitude larger than the nominal value — on the structure of the thin films were studied.

The temperature rise of the thin NiCr film during trimming was monitored by a low heat capacity and time constant thin film Pt resistance thermometer, deposited over the NiCr film and separated by a 200  $\mu\text{m}$  SiO<sub>2</sub> insulator film. The resistance of the NiCr film changed abruptly rising its temperature above 670 K. Structural changes of the thin films deposited on a microgrid were studied in situ by a transmission electron microscope during trimming. Results of experiments are described and possible processes of resistance changes are discussed.