Low-resistance and high-resistance states in strontium titanate films formed by the sol–gel method / H. Sohrabi Anaraki [etc.] // Physics of the Solid State. – 2015. – Volume 57. – Issue 10. – Pp. 2030-2033.

**Abstract**

A change in the resistance of strontium titanate structures formed by the sol–gel method has been demonstrated. The transition of a strontium titanate film with a thickness of about 300 nm from the highresistance to low-resistance state occurs when the bias voltage on the silicon/titanium dioxide/platinum/strontium titanate/nickel capacitor structure reaches the values of about 10 V. The resistance changes from several ohms to several tens of kiloohms. For a thicker film (~400 nm), the switching voltage increases while the resistance of the structure in the high-resistance state reaches several hundreds of kiloohms. Supposedly, the main role in changing the resistance is played by deep levels whose population changes by the applied voltage. The prospects for the application of strontium titanate films in memory memristor elements have been discussed.