

# Electrochemical Synthesis of Titanium Silicides from Molten Salts

S. V. Devyatkin, O. I. Boiko, N. N. Uskova, and G. Kaptay<sup>a</sup>

Institute of General and Inorganic Chemistry, Palladin avenue 32/34, 03680 Kiev 142, Ukraine

<sup>a</sup> Department of Physical-Chemistry, University of Miskolc,  
Miskolc 3515, Egyetemvaros, Hungary

Reprint requests to Dr. S. D.; Fax: 38-044-4443070; E-mail: devyatkin@ionc.kar.net

Z. Naturforsch. **56 a**, 739–740 (2001); received August 20, 2001

*Presented at the NATO Advanced Study Institute, Kas, Turkey, May 4 - 14, 2001.*

Electrochemical synthesis of titanium silicides from chloro-fluoride melts has been investigated by thermodynamic calculation, voltammetry and electrolysis. The electrochemical synthesis of four titanium silicides ( $\text{TiSi}_2$ ,  $\text{TiSi}$ ,  $\text{Ti}_5\text{Si}_4$ ,  $\text{Ti}_5\text{Si}_3$ ) was to be a one-step process, the stoichiometry of the deposited silicides being correlated with the concentration of Si and Ti ions in the melt.

*Key words:* Titanium silicides; Electrochemical Synthesis; Molten Salts.