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Stability of intercalated by transition metal compounds based on $TiSe_2$

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Abstract

Comparative thermodynamic stability of diselenides of the 3d transition metals (Fe, Ni, Cr, Ti) metals in the formation of dichalcogenides has been investigated by X-ray photoelectron spectroscopy. It is established that chromium dichalcogenide is the most stable among this group of metals and which can compete with titanium diselenide. Fe and Ni with an excess of metal relative to the formula TSe_2, T = Ti, Cr, Fe, Ni remains in the metallic state and are present in the interlayer space of the lattice formed $CrSe_2$ or $TiSe_2$ is studied.