Synthese und Kristallstruktur des Lanthan-Titanat-Tellurats
LaTi(Ti$_{0.25}$Te$_{0.75}$)O$_6$ und seine Verwandtschaft mit PbSb$_2$O$_6$
und Sr(MnTe)O$_6$

Synthesis and Crystal Structure of the Lanthanum Titanate Tellurate
LaTi(Ti$_{0.25}$Te$_{0.75}$)O$_6$ and its Relationship to PbSb$_2$O$_6$ and Sr(MnTe)O$_6$

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Lanthanum, Titanate, Tellurate, Crystal Structure

Single crystals of LaTi(Ti$_{0.25}$Te$_{0.75}$)O$_6$ have been prepared by solid state reactions. X-ray investigations led to trigonal symmetry, space group C$_3$-P3, $a = 5.141(10)$, $c = 5.218(10)$ Å, $Z = 1$. The compound is characterized by a predominantly ordered distribution of Ti$^{4+}$ and Te$^{6+}$. Typical features of the crystal structure are staggered layers containing edge connected TiO$_6$ and (Ti,Te)O$_6$ octahedra. The layers are connected by La$^{3+}$ ions receiving an octahedral coordination by the surrounding oxygen ions. The relationships to the PbSb$_2$O$_6$ type and the recently described compound Sr(MnTe)O$_6$ are discussed.

* Sonderdruckanforderungen an Prof. Dr. Müller-Buschbaum.