Kristallchemische Beziehungen von $Co_6O_2[TeO_4(CoAsO_5)_2]$ zur Steinsalzstruktur von CoO mit einem Beitrag über magnetische Messungen an $Co_6O_2[TeO_4(CoAsO_5)_2]$

Crystal Chemical Relations of $Co_6O_2[TeO_4(CoAsO_5)_2]$ to the Rocksalt Structure of CoO and a Contribution on Magnetic Measurements of $Co_6O_2[TeO_4(CoAsO_5)_2]$

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Z. Naturforsch. **53 b,** 1109–1114 (1998); eingegangen am 12. Juni 1998

Cobalt, Tellur, Oxide-Arsenate, Magnetism, Structure Relations

The recently investigated compound $Co_6O_2[TeO_4(CoAsO_5)_2$ marks the first occurrence of a tellurate-arsenate additionally revealing the hitherto unknown pyro-cobaltoarsenate group $CoAsO_7$. One oxygen is exclusively connected to octahedrally coordinated cobalt. It is shown that the structure of $Co_6O_2[TeO_4(CoAsO_5)_2]$ can be derived step by step from the rock salt structure of CoO. Magnetic measurements using the Faraday technique reveal Curie-Weiss behaviour between 88 and 325 K. Low temperature measurements by a SQUID magnetometer show antiferromagnetism and a relatively low NEEL temperature of 5 K compared to other Co(II) compounds.

* Sonderdruckanforderungen an Prof. Dr. Hk. Müller-Buschbaum.