

Synthesis of large diopside crystals

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Diopside crystals were synthesized by the Czochralski (CZ) method in an N₂ atmosphere with a large Ir crucible of 90 mm diameter and 90 mm height. We used high purity (99.99%) granular MgO and SiO₂ reagents of 1-3 mm size and high purity (99.99%) CaCO₃ powder as starting materials.

The largest as-grown crystal is up to 120 mm in length and 50 mm in diameter. Powder X-ray diffraction analysis revealed that the crystal is a diopside polycrystal.

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