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# Wettability of Highly Conductive ZnO:Ga:Cl CVT Ceramics with Various Ga Content

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## Abstract

ZnO:Ga:Cl ceramics were sintered using chemical vapor transport technique. Ga content was varied in a range of 0–10 mol %. The wettability of unpolished and polished surface of ZnO:Ga:Cl ceramics was investigated. The polished and etched surface of ZnO ceramics is in a hydrophilic state. The presence of Ga impurity leads to a strong increase in the water contact angle to 131°. This behavior is attributed to a high concentration of free electrons, which suppress the formation of intrinsic surface defects acting as traps for water molecules. Air pockets on unpolished surfaces of ZnO:Ga:Cl ceramics are an additional factor that increases the water contact angle.

*Keywords: zinc oxide CVT ceramics, wetting, hydrophobicity, electrical conductivity*

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