

Ba₁₀Y₆Ti₄O₂₇ an aperiodic oxide with an unusually low thermal conductivity.**John Bleddyn Claridge***University of Liverpool, Liverpool, United Kingdom;**j.b.claridge@liv.ac.uk*

The novel aperiodic titanate Ba₁₀Y₆Ti₄O₂₇ has a thermal conductivity that equals the lowest reported for an oxide at room temperature. All of the atomic sites are described by Bessel function occupancy modulations. The resulting localisation of lattice vibrations suppresses phonon transport of heat. Thus Ba₁₀Y₆Ti₄O₂₇ represents a new lead material for low thermal conductivity oxides, the possibility of using the structural description to select other new leads will be explored.

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