

Abstract Submitted  
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**Geometric space - the extension of extremely dense unit cells**

ANTONY J BOURDILLON, UHRL — The Quasicrystal is a relatively new kind of solid, intermediate between crystals and compound glasses. It has many peculiar properties including non-Drude conductivity; geometric electronic band structures; peculiar mechanical and magnetic effects etc. However the greatest benefit they have taught us is the fact of geometric space with sharp coherence [1]. This provides opportunities for finite element simulations with fast convergence and avoidance of subsidiary maxima or minima. As Einstein's curved space is locally Euclidean; dense atomic space is locally icosahedral and geometric in extension. Intermediate linear periodicity, in crystals, is constrained by unit cells that are less dense at short range. [1] Diffraction line width in quasicrystals – sharper than crystals, A.J. Bourdillon, (2016) Journal of Modern Physics, in press.

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