Mathematics > Metric Geometry

Colourings of lattices and coincidence site lattices

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The relationship between the coincidence indices of a lattice Γ_1 and a sublattice Γ_2 of Γ_1 is examined via the colouring of Γ_1 that is obtained by assigning a unique colour to each coset of Γ_2. In addition, the idea of colour symmetry, originally defined for symmetries of lattices, is extended to coincidence isometries of lattices. An example involving the Ammann-Beenker tiling is provided to illustrate the results in the quasicrystal setting.

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