Summary (translation): Quasicrystals present rotational symmetries impossible in crystallography that are associated with metallic numbers. Their atoms differ from one another in different ways, although they form regular non-repetitive patterns. In order to present some applications of the metallic numbers in quasicrystals structures, some inherent results about metal numbers are shown and a classification of the three-dimensional crystallographic groups is presented, followed by a characterization of quasicrystals structures.

MSC:
52C23 Quasicrystals and aperiodic tilings in discrete geometry
11B39 Fibonacci and Lucas numbers and polynomials and generalizations

Keywords:
quasicrystals; rotational symmetries; metallic numbers

Full Text: Link