Prime Components of Apollonian Circle Packings

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March 4th at 2:40 pm
Bryn Mawr College, Park 336[1]
Tea and cookies in Park 361 at 2:20 pm

Abstract: An Apollonian circle packing is a fractal arrangement of circles with disjoint interiors formed starting from four mutually tangent circles and continually adding newer circles in the triangular interstices of any subset of three. If four mutually tangent circles in the packing have integer curvature, then all circles in the packing will have integer curvature. Given such a packing, there are natural questions one can ask. For example, it is conjectured that, subject to a congruence obstruction, the collection of curvatures contains every sufficiently large admissible integer. In this talk, we investigate the arithmetic properties of the collection of integers appearing in prime components of Apollonian circle packings.

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[1]Notice the room change is different than past years.