

Continued Fractions in Imaginary Quadratic Fields

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Continued fractions have been used since the late 19th century to approximate complex numbers, but only in the five Euclidean imaginary quadratic fields. With the help of a new geometric tool, extended Schmidt arrangements, we will show how the classical continued fraction algorithm can work in any imaginary quadratic field. We will also discuss links among these new arrangements, Apollonian circle packings, and the ideal class group.