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On a fabric of kissing circles. (English) Zbl 07394399

Summary: Applying circle inversion on a square grid filled with circles, we obtain a configuration that we call a fabric of kissing circles. We focus on the curvature inside the individual components of the fabric, which are two orthogonal frames and two orthogonal families of chains. We show that the curvatures of the frame circles form a doubly infinite arithmetic sequence (bi-sequence), whereas the curvatures in each chain are arranged in a quadratic bi-sequence. We also prove a sufficient condition for the fabric to be integral.

MSC:
52C26 Circle packings and discrete conformal geometry
11B37 Recurrences

Keywords: curvature; fabric of kissing circles; frame; inversion in a circle; PL chain

Full Text: DOI

References:


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