CONFORMALLY SYMMETRIC CIRCLE PACKINGS: A GENERALIZATION OF DOYLE'S SPIRALS

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ABSTRACT. From the geometric study of the elementary cell of hexagonal circle packings—a flower of 7 circles—the class of conformally symmetric circle packings is defined. Up to Möbius transformations, this class is a three parameter family, that contains the famous Doyle spirals as a special case. The solutions are given explicitly. It is shown that these circle packings can be viewed as discretization s of the quotient of two Airy functions.

The online version of this paper contains Java applets that let you experiment with the circle packings directly.