

THE GEOMETRY OF KISSING: SODDY CIRCLES, APOLLONIAN GASKETS, AND A PROBLEM IN GEOMETRIC GRAPH THEORY

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ABSTRACT. Four mutually tangent circles satisfy a basic relation that has been known as far back as a letter written in 1643 by Descartes to the Princess Elizabeth of Bohemia. Soddy rediscovered this relation and generalized it to five mutually tangent spheres. Apollonian Gaskets are a fractal formed by repeated application of the procedure to create Soddy circles. This talk will cover several variations of this problem, including one of my own which relates to my research. This talk also serves as an introduction to my dissertation research in coin graphs.

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