

On the local-global conjecture for 3-dimensional Kleinian sphere packings

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We will discuss the local-global conjecture for certain integral Kleinian sphere packings, such as Soddy sphere packings and orthoplicial Apollonian sphere packings. Sometimes each sphere in a Kleinian sphere packing has a bend ($1/\text{radius}$) that is an integer. When all the bends are integral, which integers appear as bends? In 2019, Kontorovich proved the local-global conjecture for Soddy sphere packings. Work towards proving a local-global conjecture for orthoplicial Apollonian sphere packings has been done by Dias and Nakamura. We extend their work to say more about the local-global conjecture for orthoplicial Apollonian sphere packings.