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A Sublinear Bound on the Chromatic Zeros of Theta Graphs

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Abstract   Let $\Theta = \Theta(m_1, \ldots, m_k)$ denote a graph consisting of two vertices u, v and k internally-disjoint uv-paths of lengths $m_1, \ldots, m_k$. We exhibit an implicitly-defined function $R(k)$ such that every complex zero z of the chromatic polynomial of Θ satisfies $|z - 1| < R(k)$, and show that $R(k)$ is sublinear as $k \to \infty$.