

On isospectrality of genus two graphs

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By a graph we mean a finite connected multigraph without bridges. The genus of a graph is the dimension of its homology group. Two graphs are isospectral if they share the same Laplacian spectrum. We prove that two genus two graphs are isospectral if and only if they are isomorphic. Also, we present two isospectral bridgesless genus three graphs that are not isomorphic.