

1124-05-377

**Joshua N Cooper\***, 1523 Greene St, Columbia, SC 29208, **Wei Li**, Fuzhou, Fujian , Peoples Rep of China, and **An Chang**, Fuzhou, Fujian , Peoples Rep of China. *Analytic Connectivity of Uniform Hypergraphs.*

The second smallest eigenvalue of the Laplacian matrix of a 2-graph  $G$ , denoted  $\lambda_2(G)$ , is called the “algebraic connectivity” of  $G$ . This quantity plays an important role in spectral graph theory. Qi defined a the “Laplacian tensor” and a natural “analytic connectivity”  $\alpha(H)$  of  $k$ -uniform hypergraphs  $H$ . We investigate upper and lower bounds on this parameter expressed in terms of the degree sequence, codegree sequence, vertex connectivity, isoperimetric number and diameter, and compute the the analytic connectivity of some special  $k$ -graphs. (Received September 13, 2016)