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James M Carraher* (carraherjm2@unk.edu). *Minimum weight eulerian circuits.*

Let G be an eulerian digraph. For each vertex we are given a matrix A , where a_{ij} is a nonnegative integer representing the cost of moving from the (incoming) edge i to the (outgoing) edge j . A minimum weight eulerian circuit is an eulerian circuit that minimizes the total cost. We investigate when we can find minimum weight eulerian circuits. We show that in the case of weights of 0 and 1 that determining if there is a eulerian circuit of weight 0 is NP-complete. (Received September 12, 2016)