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Beth A Novick* (nbeth@clemson.edu), Beth Novick, Department of Mathematical Sciences, O-110 Martin Hall, Box 340975, Clemson, SC 29634-0975, and **Henry Martyn Mulder**. *An intuitively appealing axiomatization of the median procedure on median graphs.*

A profile of length k on a finite connected graph G is a k -tuple x_1, \dots, x_k of vertices of G , with repetition allowed. A median m of a profile is a vertex for which the sum of geodesic distances from m to all vertices in the profile is minimum. The median procedure finds the set of all medians of a profile. Medians are important in location theory and in the consensus theory of voting. A median graph is a graph for which every profile of length 3 has a unique median. Median graphs have been well studied and arise in many arenas, including ternary algebra, ordered sets and discrete distributed lattices.

We establish a succinct axiomatic characterization of the median procedure on median graphs. This is a simplification of the of the characterization given by McMorris, Mulder and Roberts in 1998: we show that the median procedure can be characterized on the class of all median graphs with only three simple and intuitively appealing axioms. (Received September 21, 2010)