1125-52-468  Oleg R. Musin* (oleg.musin@gmail.com), One West University Blvd, Mathematics, LHSB 2.522, Brownsville, TX 78520. *Minimal spherical representation of graphs.

Any graph G can be embedded in a Euclidean space as a two-distance set with the minimum distance a if the vertices are adjacent and distance b otherwise. The Euclidean representation number of G is the smallest dimension in which G is representable. In this talk we consider spherical and J-spherical representation numbers of G. We give exact formulas for these numbers using multiplicities of polynomials that are defined by the Caley-Menger determinant. We show that using W. Kuperberg’s theorem the representation numbers can be found explicitly for the join of graphs. (Received September 02, 2016)