Localization theorems for quaternionic matrices and their applications

Istkhar Ali, Sk. Safique Ahmad

Abstract. In this talk, we present location of left and right eigenvalues of a quaternionic matrix. After that, a sufficient condition for the stability of a quaternionic matrix is derived that generalizes the stability condition for a complex matrix. Finally, a characterization of bounds for the zeros of quaternionic polynomials is given.

Keywords: Quaternionic matrix; left and right eigenvalues; Gerschgorin type theorems; quaternionic polynomials.