1155-81-40 **David J Bertucci*** (davidjbertucci@gmail.com), Physics Department, Shippensburg University, 1871 Old Main Dr, Shippensburg, PA 17257, and **A Abdurrahman** (ababdu@ship.edu), Physics Department, Shippensburg University, 1871 Old Main Dr, Shippensburg, PA 17257. *Infinite matrices in the half-string field theory of the open bosonic string.* Preliminary report.

In the half-string operator formulation of the open bosonic string proposed by Witten, one encounters infinite dimensional matrices. These infinite dimensional matrices correspond to the physical string states. For example, the interaction at the level of vertices can be computed in terms of product and trace of three infinite dimensional matrices. Moreover, the form of the interaction vertex in the half-string oscillator modes is given by an inverse of infinite dimensional matrix. However, it is not easy to invert these infinite dimensional matrices due to the lack of any formal procedure in matrix algebra to invert such matrices. In this paper, we shall achieve that by using the so-called Neumann function techniques. (Received November 22, 2019)