

Nova Southeastern University
3301 College Ave, Fort Lauderdale, FL 33314

August 17, 2021

To whom it may concern,

Please accept this document as my cover letter for the submission into the MAKO Journal. In this paper, we study the combinatorial properties of spectral p-norms for hypermatrices. We obtain an upper bound for these norms when the hypermatrices satisfy certain conditions.

For a special, hypercubical tensor, \mathcal{A} , where $\mathcal{A}_{i_1, \dots, i_m} = 0$ if any $i_j = i_k$ for $j \neq k$, and $\mathcal{A}_{i_1, \dots, i_m} \geq 0$ along with its p-spectral norm, $\|\mathcal{A}\|_p$, $p \geq 1$, has a developed upper bound. That is, $\|\mathcal{A}\|_p \leq \|\mathcal{A}\|_1$. Although this inequality is a working definition for arbitrary tensors in general, the boundedness of this specified p-norm can be improved upon.

Thank you for your consideration,

Killian J. Hitsman

NSU Student Undergraduate Journal: MAKO

Killian J. Hitsman

 (954)801-0677 •  killianhitsman@gmail.com