1154-17-810 **Nicholas W. Mayers*** (nwm215@lehigh.edu). *The index of Lie poset algebras.*

Incidence, or poset, algebras can be given a Lie structure by taking the commutator product. These "Lie poset algebras" have only recently been introduced into the literature by Coll and Gerstenhaber, who showed that such algebras may be regarded as subalgebras of a simple Lie algebra $\mathfrak{g}$ which lie between a Cartan and a Borel subalgebra of $\mathfrak{g}$. Here, we initiate the study of the index (an algebraic invariant) of Lie poset algebras in $\mathfrak{sl}(n)$. In particular, we provide general closed-form formulas for the index of such type-A Lie poset algebras corresponding to posets of restricted height. Furthermore, we provide a combinatorial recipe for constructing all posets corresponding to type-A Frobenius (index zero) Lie poset algebras of heights zero, one, and two. We conclude by showing how this theory can be extended to the other classical types. (Received September 10, 2019)