1118-00-259 **Nathan P Vander Werf*** (nvanderw@nd.edu), 1225 Bissell st., South Bend, IN 46617. *Special pairs of screening operators and certain subalgebras of a rank d lattice vertex operator algebra.*

We discuss the notion of special pairs of screening operators for a rank d lattice vertex operator superalgebra. Such screening pairs $(\tilde{Q}, Q)$ in the rank 1 case proved to be useful machinery in studying the internal structure of the $\mathcal{W}$-algebra $\mathcal{W}(p) = \ker \tilde{Q}$ and proving the C_2-cofinite property. From an analysis of screening pairs that can arise, one can construct a large number of subalgebras of V_L by considering the intersection of the kernels of certain screening operators that share a common Virasoro element. Some subalgebras that emerge share features similar to the $\mathcal{W}(p)$-algebra in the rank 1 setting while others do not as much. If time permits, we will show in the rank 2 setting how the kernel of a long screening operator $\ker \tilde{Q}$ (and in some cases the intersection of the kernels of two screening operators) can be computed. With such decompositions, the problem of studying the internal structure of $\ker \tilde{Q}$, such as finding a strongly generating set for $\ker \tilde{Q}$ and proving the C_2-cofinite property, as well as determining the representation theory, all become tractable. (Received February 02, 2016)