1102-17-193 **Cuipo (Cuibo) Jiang** and **Zongzhu Lin***, Department of Mathematics, Kansas State University, Manhattan, KS 66506. *Schur-Weyl duality, level-rank duality, and duality pairs for vertex operator algebras.* Preliminary report.

We study the decomposition of tensor powers $L_{\widehat{\mathfrak{sl}}_n}(1,0)^{\otimes l}$ of the basic representations of the affine Lie algebra $\widehat{\mathfrak{sl}}_n$. Each of these representations carry a simple rational vertex operator algebra structure and the coefficient space of the trivial representation is a vertex operator algebra called commutant subalgebra. Other coefficient spaces of irreducible components are representations of this commutant vertex operator algebra. One of the main result shows that this commutant vertex operator algebra is isomorphic to the parafermion in $L_{\widehat{\mathfrak{sl}}_l}(n,0)$. The decompositions of the more general tensor product $L_{\widehat{\mathfrak{sl}}_n}(l_1,0)\otimes L_{\widehat{\mathfrak{sl}}_n}(l_2,0)\otimes\cdots\otimes L_{\widehat{\mathfrak{sl}}_n}(l_1,0)$ give the commutants of aLevi type vertex operator subalgebras of type $(l_1,\cdots,l_s)$ in $L_{\widehat{\mathfrak{sl}}_{l_1+\cdots+l_s}}(n,0)$. These results resemble the level-rank duality and Howe duality pairs. Further Howe duality pairs in vertex operator algebras are also discussed. (Received July 28, 2014)