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Songpon Sriwongsa* (songpon@uwm.edu) and **Yi Ming Zou** (ymzou@uwm.edu). *Orthogonal classical Cartan subalgebra decomposition of \mathfrak{sl}_n over a finite commutative ring.*

Orthogonal decomposition of the special linear Lie algebra over the complex numbers, which is a decomposition into a direct sum of Cartan subalgebras that are pairwise orthogonal with respect to the Killing form, was studied in the early 1980s and attracted further attentions in the past decade due to its application in quantum information theory. In this talk, we will present the orthogonal decomposition problem of the special linear Lie algebra over a finite commutative ring with identity. Under some sufficient conditions, we will give a construction of orthogonal decomposition of this Lie algebra. Moreover, some non-existence cases of this decomposition will be discussed. (Received November 08, 2017)