1014-90-1606   **K. A. Ariyawansa** and **Yuntao Zhu*** (`zhuyt@wsu.edu`), Department of Mathematics, Washington State University, Pullman, WA 99164-3113. *On Deriving Volumetric Center Decomposition Algorithms for Stochastic Semidefinite Programs.*

Ariyawansa and Zhu (2004) have recently proposed a new class of optimization problems termed stochastic semidefinite programs (SSDP's). SSDP's may be viewed as an extension of two-stage stochastic (linear) programs with recourse (SLP's). Zhao (2001) has derived a decomposition algorithm for SLP's based on a logarithmic barrier and proved its polynomial complexity. Mehrotra and Özevin (2005) have extended the work of Zhao (2001) to the case of SSDP's to derive a polynomial logarithmic barrier decomposition algorithm for SSDP's. An alternative to the logarithmic barrier is the volumetric barrier of Vaidya (1996). There is no work based on the volumetric barrier analogous to that of Zhao (2001) for SLP's or to the work of Mehrotra and Özevin (2005) for SSDP's. The purpose of this presentation is to sketch the derivation of polynomial volumetric barrier decomposition algorithms for SSDP's.

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