Algebraic Techniques for Stochastic Programming

R. Schultz[1]

Abstract: While, over the years, underlying mathematical methodology in stochastic programming predominantly came from stochastics and (convex) analysis, the spread of stochastic integer progamming and, more recently, nonlinear polynomial stochastic programming have enriched the spectrum of theory and algorithms by instruments from algebra. In the talk two lines of development will be addressed: (i) consequences of Gordan-Dickson-type finiteness for justifying finiteness of augmentation algorithms for two- and multi-stage stochastic integer programs and (ii) solving polynomial equations in stationary network flow ruled by Kichhoff's Laws.

---

[1] Faculty of Mathematics
University of Duisburg-Essen
Thea-Leymann-Str. 9, 45127 Essen, Germany
ruediger.schultz@uni-due.de