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Abraham D. Smith* (adsmith@member.ams.org), 422B John Mulcahy Hall, Mathematics Dept, Fordham University, Bronx, NY 10458-5165. *Degeneracy of the Characteristic Variety and Canonical 1-forms on Involutive PDEs.*

The characteristic variety, Ξ , plays an important role in the analysis of the solution space of differential equations and exterior differential ideals, $\mathcal{I} \subset \Omega^\bullet(M)$. In this talk, I'll discuss the linear span of the characteristic variety, what it tells us about the solutions, and how it can be measured via an integrable extension of the original system of differential forms.

The key feature for this study is a canonical 1-form on the PDEs/EDS, reminiscent of the soldering 1-form, that sheds light on the meaning of Guillemin Normal Form and should allow a detailed, geometric classification of PDEs/EDS. (Received September 11, 2014)