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**Yuhao Hu\*** (yuhao.hu@colorado.edu). *Absolute Equivalence and Linearization via a Cartan Formalism.*

In 1914, Élie Cartan introduced the notion of ‘absolute equivalence’ between two differential systems. Seven decades later, through the works of Gardner, Shadwick, Sluis and others, this idea of Cartan found its applications in control theory. In particular, it allows us to describe and study the so-called ‘dynamic equivalence’ in geometric terms. An interesting open problem is to decide whether a given control system is dynamically linearizable. In this talk, I’ll present some recent progress towards solving this problem. (Joint work with J. N. Clelland.) (Received September 07, 2019)