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Omar Leon Sanchez* (oleonsan@uwaterloo.ca), 545 Belmont Ave West, Unit 406, Kitchener, Ontario N2M 5G7, Canada. *Prolongations and differentially closed fields.*

Given two disjoint sets of commuting derivations Δ_1 and Δ_2 and a Δ_2 -algebraic variety V . One can construct the Δ_1/Δ_2 -prolongation of V , which is a torsor of the Δ_2 -tangent bundle of V containing $(a, \delta_1 a, \dots, \delta_r a)$ for each $a \in V$ and where $\Delta_1 = \{\delta_1, \dots, \delta_r\}$.

In the spirit of the Pierce-Pillay axioms for ordinary differentially closed fields. We give a geometric characterization, indeed a first-order axiomatization, of partial differentially closed fields in terms of differential algebraic varieties and the appropriate prolongations. (Received September 12, 2011)