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Title: SOPDES and nonlinear connections

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The canonical k -tangent structure on $T_k^1Q = TQ \oplus \cdot^k \cdot \oplus TQ$ allows us to characterize nonlinear connections on T_k^1Q and to develop Günther's (k -symplectic) Lagrangian formalism. We study the relationship between nonlinear connections and second-order partial differential equations (SOPDES), which appear in Günther's Lagrangian formalism.

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