Application of a Second Order VSC to Nonlinear Systems in Multi-Input Parametric-Pure-Feedback Form.

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Abstract: The use of a multi-input control design procedure for uncertain nonlinear systems expressible in multi-input parametric-pure feedback form to determine the control law for a class of mechanical systems is described in this paper. The proposed procedure, based on the well-known backstepping design technique, relies on the possibility of extending to multi-input uncertain systems a second order sliding mode control approach recently developed, thus reducing the computational load, as well as increasing robustness.