

This technical note introduces a novel control law that dynamically modifies the reference of a pre-compensated nonlinear system to ensure the satisfaction of constraints. This is done by translating the state space constraints into an upper bound on the value of the Lyapunov function and by manipulating the velocity of the applied reference to enforce this bound. The main advantage of this approach is that it systematically provides a closed-form control law able to enforce constraints. The theory is introduced for general nonlinear systems subject to constraints and is then specialized to the large and highly relevant class of nonlinear systems admitting a Lyapunov function lower-bounded by a quadratic form and subject to linear constraints. Numerical simulations show the effectiveness of the proposed method.