In many control applications, state and/or output constraints need to be satisfied. For that purpose, artificial limits are imposed using a specially designed control law. Among other methods, invariance control has proven valuable for addressing the problem of state and output constraints in nonlinear control systems. However, invariance controlled systems often exhibit undesirable chattering behavior in particular in digital implementation. In this work, we propose a novel invariance-based control approach, which significantly reduces chattering. We give a condition for stability and restrictions on the admissible constraint configuration. The approach and the results are illustrated in simulations.