

Nonlinear Algebraic System

solve $R(\xi, u(\xi)) = 0$
 $u(\xi)$

evaluate $F(\xi, u(\xi))$



Nonlinear ODE System

solve $R(t, \xi, u(t, \xi), \dot{u}(t, \xi), \ddot{u}(t, \xi)) = 0$
 $u(t, \xi), \dot{u}(t, \xi), \ddot{u}(t, \xi)$

evaluate $F(t, \xi, u(t, \xi), \dot{u}(t, \xi), \ddot{u}(t, \xi))$



Nonlinear Stochastic ODE System

solve $R(t, y(\xi), u(t, y(\xi)), \dot{u}(t, y(\xi)), \ddot{u}(t, y(\xi))) = 0$
 $u(t, y(\xi)), \dot{u}(t, y(\xi)), \ddot{u}(t, y(\xi))$

evaluate $\mathbb{E}[F(t, y(\xi), u(t, y(\xi)), \dot{u}(t, y(\xi)), \ddot{u}(t, y(\xi)))]$

$\mathbb{V}[F(t, y(\xi), u(t, y(\xi)), \dot{u}(t, y(\xi)), \ddot{u}(t, y(\xi)))]$

$\mathbb{S}[F(t, y(\xi), u(t, y(\xi)), \dot{u}(t, y(\xi)), \ddot{u}(t, y(\xi)))]$