

CC2. Design Methods

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TC Name	Keywords
2.1. Control Design	Adaptive control
	Analytic design
	Control in neuroscience
	Control in system biology
	Control of hybrid systems
	Controller constraints and structure
	Data-based control
	Decentralized control
	Digital implementation
	Fault-tolerant
	Model validation
	Observer design
	Parametric optimization
	Sampled-data control
	Supervision and testing
	Switching stability and control
2.2. Linear Control Systems	Complex systems
	Decoupling problems
	Descriptor systems
	Diagnosis
	Disturbance rejection (linear case)
	Fractional systems
	Infinite-dimensional systems (linear case)
	Linear multivariable systems
	Linear systems
	Model following control
	N-dimensional systems
	Networks (structural properties)
	Observers for linear systems
	Output feedback control (linear case)
	Polynomial methods
	Positive systems
	Process control
	Regulation (linear case)
	Robust control (linear case)
	Structural properties
	Time-delay systems
	Time-invariant systems
	Time-varying systems
2.3. Non-Linear Control Systems	Aerospace
	Anti-windup
	Application of nonlinear analysis and design
	Asymptotic stabilization
	Chemical engineering
	Constrained control
	Control of bifurcation and chaos
	Control of constrained systems
	Control of interconnected systems
	Control of switched systems
	Control under communication constraints (nonlinearity)
	Discontinuous control
	Distributed nonlinear control
	Disturbance rejection
	Energy systems
	Input-to-state stability
	Lagrangian and Hamiltonian systems
	Lyapunov methods
	Model reduction
	Networked systems

	Nonlinear cooperative control
	Nonlinear observers and filter design
	Nonlinear predictive control
	Nonlinear time-delay systems
	Output feedback control
	Output regulation
	Parameter-varying systems
	Passivity-based control
	Power systems
	Quantized control
	Robust control
	Sliding mode control
	Stability of hybrid systems
	Stability of nonlinear systems
	Systems biology
	Systems with saturation
	Tracking
	UAVs
2.4. Optimal Control	Control problems under conflict and/or uncertainties
	Data-driven optimal control
	Differential or dynamic games
	Evolutionary algorithms for optimal control
	Industrial applications of optimal control
	Large scale optimization problems
	Non-smooth and discontinuous optimal control
	Numerical methods for optimal control
	Optimal control of hybrid systems
	Optimal control of partial differential equations
	Optimal control theory
	Predictive control
	Real-time optimal control
	Singularities in optimization
	Stochastic optimal control problems
2.5. Robust Control	Convex optimization
	Data-driven robust control
	Distributed robust controller synthesis
	Linear parameter-varying systems
	Probabilistic robustness
	Quantitative feedback theory
	Randomized algorithms
	Relaxations
	Robust control applications
	Robust controller synthesis
	Robust estimation
	Robust learning systems
	Robust linear matrix inequalities
	Robust time-delay systems
	Robustness analysis
	Sum-of-squares
	Uncertain systems
2.6 Distributed Parameter Systems	Backstepping control of distributed parameter systems
	Control and estimation of wave equations and systems of elasticity
	Control of fluid flows and fluids-structures interactions
	Control of heat and mass transfer systems
	Control of hyperbolic systems and conservation laws
	Control of quantum and Schroedinger systems
	Controllability and observability of distributed parameter systems
	Delay compensation for linear and nonlinear systems
	Disturbance estimation and sliding mode control of distributed parameter systems
	Fractional-order systems
	Hysteresis modeling and control
	Infinite-dimensional multi-agent systems and networks
	Model predictive control for distributed parameter systems
	Model reduction of distributed parameter systems
	Motion planning for distributed parameter systems
	Output regulation for distributed parameter systems

	Port Hamiltonian distributed parameter systems
	Semigroup and operator theory
	Stability of delay systems
	Stability of distributed parameter systems
	System identification and adaptive control of distributed parameter systems
	Thermal and process control applications of distributed parameter systems
	Well-posed distributed parameter systems