

12	Indirect Adaptive Control	
12.1	Introduction	
12.2	Adaptive Pole Placement	
12.2.1	The basic Algorithm	
12.2.2	Analysis of the Indirect Adaptive Pole Placement	
12.2.3	The “Singularity” Problem	
12.2.4	Adding External Excitation	
12.3	Robust Indirect Adaptive Control	
12.3.1	Standard Robust Adaptive Pole Placement	
12.3.2	Modified Robust Adaptive Pole Placement	
12.3.3	Robust adaptive pole placement: An Example	
12.4	Adaptive Generalized Predictive Control	
12.5	Adaptive Linear Quadratic Control	
12.6	Adaptive Tracking and Robust Regulation	
12.7	Indirect Adaptive Control Applied to the Flexible Transmission	
12.7.1	Adaptive Pole Placement	
12.7.2	Adaptive PSMR Generalized Predictive Control	
12.8	Concluding Remarks	
12.9	Problems	