Abstract

The industry is increasing technology setting to improve manufacturing quality products and provide greater security for people to best use materials, leaving tiring or boring tasks to the machines. Every centrifugal or axial compressor has a characteristic combination of maximum discharge pressure and minimum flow beyond which it will surge. Preventing this damaging phenomenon is one of the most important tasks of a compressor control system. The most common way to prevent surge is to recycle a portion of the flow to keep the compressor away from its surge limit. Unfortunately, such recycling extracts an economic penalty due to the cost of compressing this extra flow. So the control system must be able to determine accurately how close the compressor is to surging so that it can maintain an adequate but not excessive recycle flow rate. The integrated control and protection systems are thus extremely important to companies and industries using turbo-compressors. To insure the functioning of the compression system it is necessary to develop a theory of command and control based on physical laws. In this paper, we are going to explore the ANFIS identification method integrated to PID controller in the recycle compression system. The results of simulation show a good estimation and control of the recycle compression system