



The Cliff's Notes Guide To Process Control - BB (Boring)

Practical Process Control for Engineers and Technicians by Wolfgang Altmann

Reviewed by Nick Sands

There is always a need for a good practical introduction to process control. That is the intent of Wolfgang Altmann's *Practical Process Control for Engineers and Technicians* published in 2005. Altmann was educated in Europe and had a Masters in Engineering. He worked as an instructor for IDC Technologies in Australia, but passed away before completing the book.

Altmann begins with an introduction to process control and modeling terminology. Next is a discussion of common measurements including instrument selection and installation considerations. There is a review of control valve types and characteristics. These sections are well illustrated and include some good practical tips.

Next is a section on the fundamentals of control loops, including on-off and modulating feedback controllers. There is a discussion of controller stability and the modes of a PID controller. The control basics are extended for the digital implementations such as the velocity and positional algorithms. There is a strange description of the ideal controller. Several tuning methods are given including Ziegler-Nichols open and closed loop methods.

Controller features such as output modes, limits, and saturation are covered in another chapter, along with the basics of cascade control such as tracking and initialization. Feedforward control is discussed as a way to anticipate controller action and reduce controller error when combined with feedback control. The impact of deadtime on control is explained, and a possible solution is offered in the form of the Smith Predictor. The final chapters review fuzzy logic, neural networks, self-tuning controllers, and statistical process control.

There are 15 exercises to reinforce the lessons in the book. A DOS based simulation package is available from IDC Technologies to complete the exercises.

Practical Process Control for Engineers and Technicians appears to be the published set of notes from a course. There are some technical errors, some of the material is a bit outdated, and the final chapters do not fit well. The result is a nicely illustrated workbook that in combination with a course may be useful, but by itself is lacking. It rates a BB (Boring) and is available from Amazon.com for about \$50.