

**Statistics for  
Engineering and  
Physical Science**

Douglas M. Hawkins  
David H. Olwell

Cumulative Sum  
Charts and Charting  
for Quality  
Improvement



1998, XVI, 247 p.

 **Printed book**

**Hardcover**

- ▶ 219,00 € | £163.00 | \$249.00
- ▶ \*234,33 € (D) | 240,90 € (A) | CHF 240.50

 **eBook**

**Available from your library or**

- ▶ [springer.com/shop](http://springer.com/shop)

 **MyCopy**

**Printed eBook for just**

- ▶ € | \$ 24.99
- ▶ [springer.com/mycopy](http://springer.com/mycopy)

D.M. Hawkins, D.H. Olwell

## **Cumulative Sum Charts and Charting for Quality Improvement**

Series: Information Science and Statistics

- ▶ **Award winning authors: - Hawkins' work on CUSUMs won him the Ellis R. Ott Award for best paper - Olwell's work on applications of CUSUMs to managing sexual harassment has been nominated for the 1998 Barchi Prize Applications-oriented viewpoint presented with only the essential theoretical underpinnings Accessible presentation requires only basic statistical training Supplementary material available on the web, including CUSUM software and data sets First publication in the new series Statistics for Engineering and Physical Sciences**

Cumulative sum (CUSUM) control charting is a valuable tool for detecting and diagnosing persistent shifts in series of readings. It is used in traditional statistical process control (SPC) settings such as manufacturing, but is also effective in settings as diverse as personnel management, econometrics, and conventional data analysis. It is an essential tool for the quality professional. This book covers CUSUMs from an application-oriented viewpoint, while also providing the essential theoretical underpinning. It is accessible to anyone with a basic statistical training, and is aimed at quality practitioners, teachers and students of quality methodologies, and people interested in analysis of time-ordered data. The text is supported by a Web site containing CUSUM software and data sets. Douglas M. Hawkins is Chair of the Department of Applied Statistics, University of Minnesota. He is a Fellow of the American Statistical Association, a Member of the International Statistical Institute and a Senior member of the American Society for Quality Control. His work on multivariate CUSUMs won him the Ellis R. Ott Award for the best paper on quality published in 1993. He has been Associate Editor of Technometrics and Journal of the American Statistical Association. David H. Olwell is Associate Professor in the Department of Mathematical Sciences at the United States Military Academy. He is a member of the American Statistical Association, the American Society for Quality Control, and the Military Operations Research Society, where his work on applications of CUSUMs to managing sexual harassment was nominated for the 1998 Barchi prize. He is Editor of Mathematica



Order online at [springer.com](http://springer.com) ▶ or for the Americas call (toll free) 1-800-SPRINGER ▶ or email us at: [customerservice@springer.com](mailto:customerservice@springer.com). ▶ For outside the Americas call +49 (0) 6221-345-4301 ▶ or email us at: [customerservice@springer.com](mailto:customerservice@springer.com).

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with \* include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with \*\* include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted.