► A Distribution-Free Shewhart Quality Con ....

Home ▶ All Journals ▶ Quality Engineering ▶ List of Issues ▶ Volume 16, Issue 4

Quality Engineering > Volume 16, 2004 - Issue 4

880 119

Views CrossRef citations to date Altmetric

**Original Articles** 

# A Distribution-Free Shewhart Quality Control Chart Based on Signed-Ranks

Saad T. Bakir Ph.D.

Pages 613-623 | Published online: 15 Feb 2007

**66** Cite this article https://doi.org/10.1081/QEN-120038022

> Sample our Business & Industry Journals >> Sign in here to start your access to the latest two volumes for 14 days

Full Article

Figures & data

References

**66** Citations

**Metrics** 

➡ Reprints & Permissions

Read this article

## **Abstract**

Since their inception by Walter Shewhart in the late 1920s, most control chart developments have been distribution-based procedures in the sense that the process output is assumed to follow a specified probability distribution (normal for continuous measurements and binomial or Poisson for attribute data). Due to Deming's influence and their widespread adoption as one of the seven basic tools of total quality manager there data may be

About Cookies On This Site

the She false

We and our partners use cookies to enhance your website experience, learn how our site is used, offer personalised features, measure the effectiveness of our services, and tailor content and ads to your interests while you navigate on the web or interact with us across devices. You can choose to accept all of these cookies or only essential cookies. To learn more or manage your preferences, click "Settings". For further information about the data we collect from you, please see our Privacy Policy

arametric) Accept All d chart is of Essential Onlas. The exact are Settings ank derlying shift nt than the

markedl statistica

comp statistic

distribut

alternati

traditional Shewhart X-bar chart under heavy-tailed distributions (the double exponential and the Cauchy) but is less efficient under light-tailed distributions (the uniform and the normal).

Q Keywords: Average run length Control sequence False alarm rate Nonparametric Outliers Robustness Wilcoxon signed-rank statistic

Related research 1

People also read

Recommended articles

Cited by 119

#### About Cookies On This Site



We and our partners use cookies to enhance your website experience, learn how our site is used, offer personalised features, measure the effectiveness of our services, and tailor content and ads to your interests while you navigate on the web or interact with us across devices. You can choose to accept all of these cookies or only essential cookies. To learn more or manage your preferences, click "Settings". For further information about the data we collect from you, please see our <a href="Privacy Policy">Privacy Policy</a>

Accept All

Essential Onl

Settings

Information for

Authors

R&D professionals

**Editors** 

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

**Open Select** 

**Dove Medical Press** 

F1000Research

Help and information

Help and contact

Newsroom

All journals

Books

### Keep up to date

Register to receive personalised research and resources by email



Sign me up











Copyright © 2024 Informa UK Limited Privacy policy Cookies Terms & conditions



Accessibility

Registered in England & Wales No. 3099067 5 Howick Place | London | SW1P 1WG

#### About Cookies On This Site



We and our partners use cookies to enhance your website experience, learn how our site is used, offer personalised features, measure the effectiveness of our services, and tailor content and ads to your interests while you navigate on the web or interact with us across devices. You can choose to accept all of these cookies or only essential cookies. To learn more or manage your preferences, click "Settings". For further information about the data we collect from you, please see our <a href="Privacy Policy">Privacy Policy</a>



Essential Onl

Settings