

## The use of Theiles rule in modelling of machines performance in manufacturing industry

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Quality is now beyond conformance to specification as a measure of evaluation and continuously striving to decrease the variability about the target value to make more uniform Theil statistic can reasonably be assumed to give results that also track the (unobserved) evolution of inequality within industries. While the evolution of inequality in manufacturing earnings cannot be taken as per se indicating the larger movements of inequality in household incomes, including those outside the manufacturing sector an attempt to control word economy by industrialized nation of the world generated the idea of total quality management for every manufacturer products. Raw materials have been the major production requirement from the time immemorial. It is quite obvious that without raw materials there will be no production in any form. The modern plastic industry has developed to a great extent out of research to substitutes to rubber and some metal products. In fact, the use of plastic products has largely replaced any item in this world presently. This research focuses on the use of non-parametric statistics in quality control on the usage of raw materials in production of plastic. Therefore this research, use the Theiles rule in modeling the machines performance in manufacturing industry to determined linear equation on the products and defective items. Theile's method is used to obtain the regression equation  $Y = -40.236 + 0.0182$  and from the result obtained it was discovered that about 2% of the materials contribute to the defectives product of the company. We thereby concluded that company should use the quality materials to avoid defective item.

### Biography

Eghe M. Igbinhehi obtained his first degree (B.Ed.) in mathematics from the University of Benin, Masters Degree (M.Sc.) in Mathematics from the University of Lagos, Nigeria. He has been lecturing Mathematics in the Polytechnic since 1985, and he is currently a Chief lecturer, the highest position for academics in the polytechnics in Nigeria. He has been involved in administrative responsibilities in his place of work since 1997 when he was appointed a head of department. Since then he has functioned in other administrative positions such as the chief examinations officer of the polytechnic, the Director (or Dean), School of Applied Sciences and Technology. He just finished his tenure as the Deputy Rector (Academic) in March 2013 before he was recently appointed as the Director of academic planning of the institution.

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## Synthesis and characterization of bimetallic nanoparticles

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A variety of different nanoparticles syntheses for bimetallic particles have been published throughout the past years. The most prominent forms of bimetallic particles are composite particles and the core-shell type. The combination of gold and cobalt raised great interest in the past, because a closed gold-shell around a magnetic cobalt-core prevents oxidation and makes the ferromagnetic material biocompatible. Furthermore a gold-surface can be easily functionalized with a variety of molecules via thiol-groups, which makes such particles interesting for drug-delivery applications.

We found that many of the published syntheses for cobalt-gold core-shell particles only yielded isolated gold or cobalt particles or heterodimeric structures of interconnected gold and cobalt particles. We thoroughly characterized these bimetallic particles to find evidence, why these interconnected structures are formed instead of the desired core-shell type particle.

### Biography

Carolin Rademacher studied Biophysics at the University of Bielefeld in 2004 and completed her B.Sc. and M.Sc. studies in 2007 and 2009, respectively, in "Single Molecule Biophysics & Applied Nanoscience"-group of Prof. Dr. Anselmetti. Later she started her Ph.D. studies in "Thin Films and Physics of Nanostructures"-group of Prof. Dr. Hütten and currently works on the synthesis, characterization and formation process of bimetallic nanoparticles. She plans to complete her thesis at the end of 2013.

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