

Optimal Sampling Policy in Semiconductor Manufacturing

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Abstract

In manufacturing, developing a cost effective sampling policy for in-line inspection stations, while ensuring the quality of finished products, is crucial. However, the sampling policy for in-line inspection stations can significantly influence yields and cycle time. There is a nontrivial tradeoff. In this paper, we study the sampling problem in semiconductor industry and develop a mathematical model to characterize it. We derive the optimal sampling policy that can achieve minimum cost. Our sampling policy compare with real case to test the model and the proposed analysis methodology. An empirical study is conducted to verify the viability of the proposed model.

Keywords

Semiconductor industry, sampling policy, yields, sampling cost

Biography

Ci-An Rong is a master student in National Tsing Hua University. He is now joining a program supported by VisEra Technologies Company. His research interests include simulation optimization and sampling strategy in semiconductor industry. His e-mail address is peter8077@gmail.com.

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