# Some Statistical Model Building Problems on Wafer Electric Parameters Performance vs. in-Process manufacturing tools

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## Abstract

Wafer Electric Parameters Performance (or say Wafer Acceptance Test ( hereafter WAT) in semiconductor terminology) is the final electric parameter test result for which have run through hundreds of tools from in-process manufacturing stages. Here we concern the effects of the tools on the electric WAT test consequences. And we expect to build proper statistical models to describe their relation. Our purpose is to correctly identify the true non-zero coefficients of corresponding tools. Those are our target tools, something had/have resulted in bad/good effects on electric performance already. However, we aim to search adequate statistical methodology to achieve our purpose. Curently LASSO (Tibshirani (1996)) or maybe LASSO-like (ie. Elastic Net) are considered by us, but mostly concern their statistical proporties on model selection consistency and prediction accuracy. We should understandard these properties to assess the risk for LASSO or LASSO-like been implemented.