Design Considerations for the Characterization of Capacitors

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Outline

Aim of Work

Background

Instrumentation

Basic Regression

$$y = a_0 + a_1 x \tag{1}$$

$$E^2 = \sum_{i=1}^{n} (y_i - y)^2 \tag{2}$$

$$E^2 = \sum_{i=1}^{n} (y_i - (a_0 + a_1 x_i))^2 \tag{3}$$

$$\frac{\partial E^2}{\partial a_0} = 0 = \sum_{i=1}^{n} (-2y_i + 2a_0 + 2a_1 x_i) \tag{4}$$

$$\frac{\partial E^2}{\partial a_1} = 0 = \sum_{i=1}^{n} (-2y_i x_i + 2a_0 x_i + 2a_1 x_i^2) \tag{5}$$

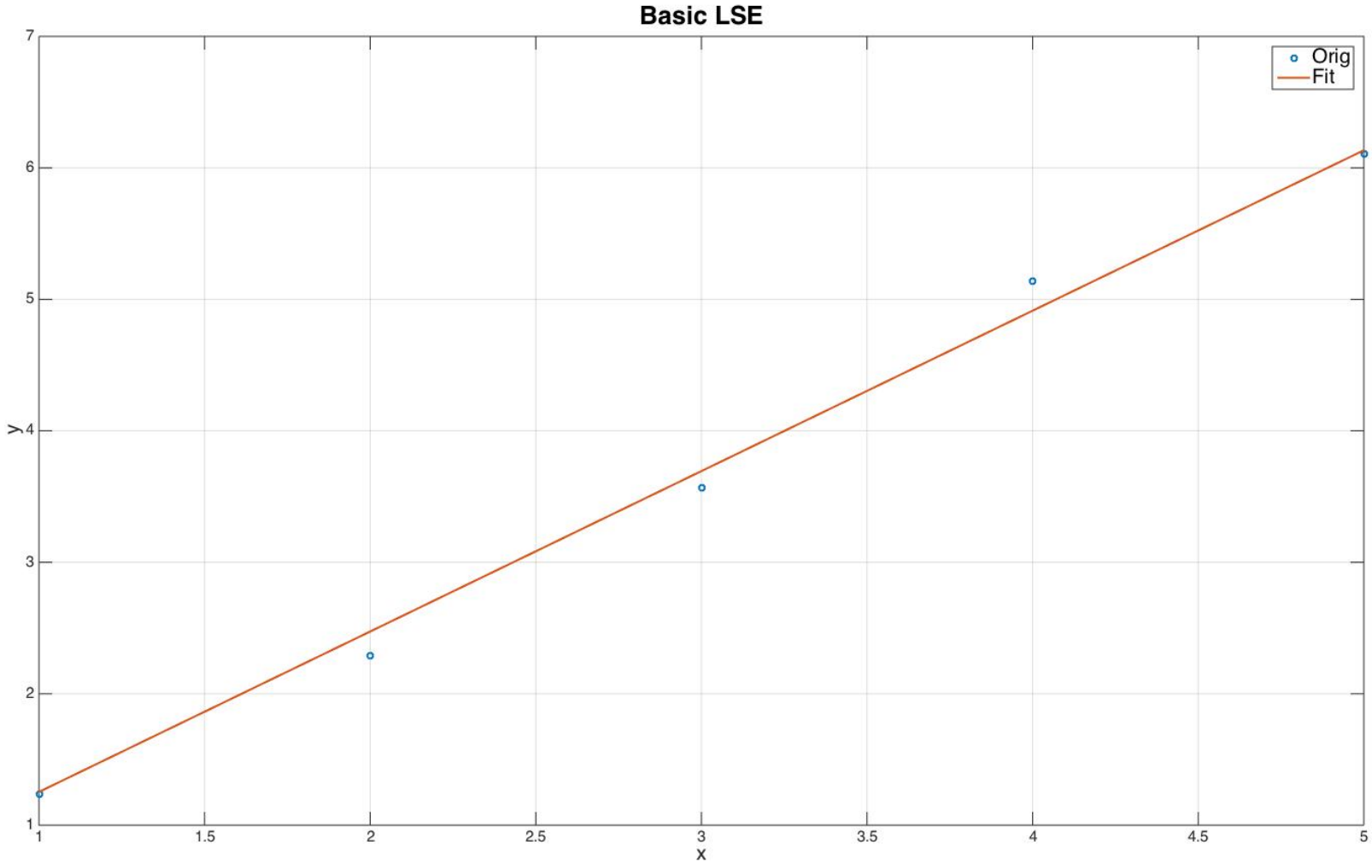

Figure: Basic LSE

Modeling

Future Work