

Report Format

I. Introduction

Read my introduction, read a paper or two (cited literature gives), and then justify the topic of your report. The introduction should end with the reader having a clear idea what question your work seeks to answer, and how it fits into the existing literature.

II. Governing Equations

Present the nondimensional 2-D governing equation and boundary conditions that you use, and describe the underlying assumptions for their use.

III. Methods

Describe the approach used to generate the results. Also discuss method used to assure trustworthiness of the results you present. You may provide some data in an appendix confirming the quality of your results.

IV. Results and Discussion

Present results that establish the feasibility of using Electrochemical Tomography to discern spatially localized events using only measurements from the wafer edge. Discuss these results and their significance. Establishing feasibility does not mean optimizing, rather, it means take a reasonable number of sites and show you can tell which one is turned on or off from the edge.

Once basic feasibility is established, explore the role of geometric, physical, and electrochemical properties on the sensitivity of Electrochemical Tomography. Geometric consideration include pattern used for sites and pattern used for edge contacts. All remaining physical and chemical properties reduce to one dimensionless group, Wa . From these results, your discussion should lead to a general set of qualitative and quantitative guidelines for what geometric, physical, and chemical traits make for effective electrochemical tomography.

From these guidelines, recommend an “optimized” system for Electrochemical Tomography using a fairly large set of sites (say, somewhere between 16 and 25). Obtain some results to indicate how well this “optimized” system functions at detecting site variation..

V. Conclusions and Implications

Draw conclusions based on the results presented. Discuss the implication of these conclusions. This section must answer the question posed in the introduction.

Due: Feb. 14, 2003. Please e-mail to dts@u.washington.edu by 5 pm.