

# Abstract

Title of Thesis: The Effects of Non-Flat Cathode Plane Surfaces in Drift Chambers of the GlueX Experiment  
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The goal of the GlueX experiment at Jefferson Lab is to map out the spectrum of exotic hybrid mesons, in order to gain a better understanding of color confinement. The search for exotic hybrid mesons will take place in a new experimental hall at Jefferson Lab, which will be constructed as part of major upgrade. A high energy photon beam suitable for photoproduction of hybrid mesons will be available, as well as a set of detectors designed for this task.

Among the detectors under construction is a set of forward drift chambers, each composed of a circular wire plane sandwiched between two circular cathode planes. Ideally, the cathode plane surfaces would be perfectly flat. As this cannot be the case, it is necessary to study the performance of drift chambers with non-flat cathode plane surfaces. A flatness measurement system has been developed and implemented, and GlueX simulation software was used to study the effects of non-flat cathode plane surfaces on track reconstruction and particle resolution.

# The Effects of Non-Flat Cathode Plane Surfaces in Drift Chambers of the GlueX Experiment

by

Micah R. Veilleux

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# Chapter 1

## your first chapter title

This is my thesis. I would like to cite an article now [1]. cum.

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# Bibliography

- [1] Albert Einstein. Covariance Properties of the Field Equations of the Theory of Gravitation Based on the Generalized Theory of Relativity. Z. Math. Phys., 63:215–225, 1914.