

R&D OF A HIGH-PERFORMANCE DIRC DETECTOR FOR USE IN AN ELECTRON-ION COLLIDER

by

S. Lee Allison
MS in Physics

A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

PHYSICS

OLD DOMINION UNIVERSITY
May 2017

Approved by:

Dr. Charles Hyde (Director)

Dr. Grzegorz Kalicy (Member)

member (Member)

ABSTRACT

R&D OF A HIGH-PERFORMANCE DIRC DETECTOR FOR USE IN AN ELECTRON-ION COLLIDER

S. Lee Allison
Old Dominion University, 2016
Director: Dr. Dr. Charles Hyde

text of abstract goes here

Copyright, 2016, by S. Lee Allison, All Rights Reserved.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

	Page
LIST OF TABLES	vi
LIST OF FIGURES	vii
1. DIRC TECHNOLOGY	1
1.1 APPLYING THE CHERENKOV EFFECT TO PARTICLE ID	1
1.2 DIRC DETECTORS	1
Chapter	
APPENDICES	
A. ERROR EVALUATION	3
VITA	4

LIST OF TABLES

Table

Page

LIST OF FIGURES

Figure

Page

CHAPTER 1

DIRC TECHNOLOGY

DIRC detectors are based on the phenomenon of Cherenkov radiation, which was formulated theoretically by Il'Ja Frank and Igor Tamm, and studied experimentally by Pavel Cherenkov and S.I. Vavilov [1].

1.1 APPLYING THE CHERENKOV EFFECT TO PARTICLE ID

1.2 DIRC DETECTORS

BIBLIOGRAPHY

- [1] A. Accardi et. al. Electron ion collider: The next qcd frontier - understanding the glue that binds us all, 2012.

APPENDIX A

ERROR EVALUATION

VITA

S. Lee Allison
Department of Physics
Old Dominion University
Norfolk, VA 23529

The text of the Vita goes here.