

An Exposition Of The Conformal Model Of Geometric Algebra

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ABSTRACT. This treatment of the conformal model is motivated by a need to expound the subject apart from many current expositions that are either too technical, (e.g. approaching the subject from a stand-point requiring a great deal of background), or too imprecise, (i.e. lacking a great deal of rigor.) This treatment of the subject is designed to be both accessible to undergraduate level students and satisfying to anyone seeking an introduction to the model that doesn't just teach the reader how to use the model, but how and why the model works.

Contents

Chapter 1. Foundations Of Geometric Algebra	1
1.1. Introduction	1
1.2. Blades As Vector Space Representatives	1
Chapter 2. The General Homogeneous Model Of Geometric Algebra	3
2.1. Representing Geometry	3
Chapter 3. The Specific Model Of Conformal Geometric Algebra	5
3.1. Instantiating The General Model	5
3.2. Generating All Rounds By Intersection	5
3.3. Generating All Flats By Intersection	5
3.4. Generating All Rounds By Fitting	5
3.5. Generating All Flats By Fitting	5
Bibliography	7

CHAPTER 1

Foundations Of Geometric Algebra

1.1. Introduction

This chapter presents the general results of geometric algebra (GA) that we will find useful in the coming treatment of the conformal model. It is assumed that the reader is already familiar with GA, and so we do not develop the language of GA here from the ground up. If the reader is already well versed in GA, they may consider skipping this chapter.

1.2. Blades As Vector Space Representatives

CHAPTER 2

The General Homogeneous Model Of Geometric Algebra

2.1. Representing Geometry

CHAPTER 3

The Specific Model Of Conformal Geometric Algebra

- 3.1. Instantiating The General Model
- 3.2. Generating All Rounds By Intersection
- 3.3. Generating All Flats By Intersection
- 3.4. Generating All Rounds By Fitting
- 3.5. Generating All Flats By Fitting

Bibliography