

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, October 10

2:00 – 3:00 PM

Maria Sanford, Room 101

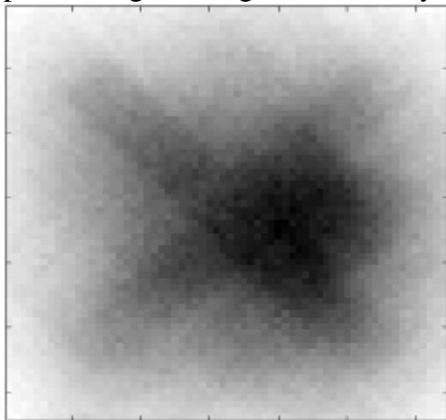
USING IDEAS FROM LINEAR ALGEBRA FOR ASTRONOMICAL IMAGE ANALYSIS

AARON LUTTMAN

CLARKSON UNIVERSITY

ABSTRACT

In linear algebra, we all learn that a system of linear equations can have a unique solution, no solution, or infinitely many solutions. The same is true for linear equations designed to process digital images. When a system has infinitely many solutions, it is often useful to choose



one "best solution." This idea can be used to develop methods for deblurring images taken by ground-based telescopes. Such telescopes sit on the ground - usually on a mountain peak - and take pictures of objects in space, such as satellites orbiting the earth. These pictures are always blurred by the atmosphere, which means that there are many possibilities for what the satellite really looks like. Using the ideas from linear algebra - with a little bit of probability and statistics thrown in - it is possible to decide which "solution" is really the most realistic picture of the satellite being photographed.

For further information:

gotchevi@ccsu.edu 860-832-2839

<http://www.math.ccsu.edu/gotchev/colloquium/>