

1046-YY-1696 **David K Ruch*** (ruch@mscd.edu), Dept of Mathematics, Campus Box 38, Metropolitan State College of Denver, Denver, CO 80217. *A student summer research project on image segmentation using wavelet methods and matrix completion.*

Image segmentation is the process of splitting a digital image into multiple regions, with applications in medical imaging and manufacturing quality control. The most common image segmentation goal is to locate objects and boundaries in images. In general, this is a very difficult problem to completely automate, and there are a number of specialized techniques used in segmentation. This talk discusses results of a recent summer undergraduate research project that used wavelet methods to denoise images as part of some image segmentation methods. The technique known as matrix completion was also utilized to deal with edge problems in digital images. The project focused on digital images with two or three well-defined regions. Automated routines were developed to detect these regions with complications of mild noise and texture also in the image. This talk will refer to the material presented in "A Student Project on Matrix Completion for Discrete Wavelet Transformations" during this Special Session, Abstract # 1046-YY-1690. (Received September 16, 2008)