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Marie A. Snipes* (snipesm@kenyon.edu) and **Amanda Harsy Ramsay** (harsyram@lewisu.edu). *Inspiring Linear Algebra with Problems in Image Analysis*. Preliminary report.

There are many rich and beautiful connections between linear algebra and problems in image processing. Two examples are radiography/tomography, the process of recording radiographic images and then recreating a 3d picture from the images, and image manipulation using the heat diffusion operator. In this talk we describe an approach that brings these two applications to the foreground of a first-semester linear algebra course. In particular, we use Matlab/Octave to introduce the applications to students early in the course, and use the applications to inspire the development of central concepts including span, linear transformations, eigenvectors and eigenvalues, and the invertible matrix theorem. This is joint work with Tom Asaki, Chris Camfield, and Heather Moon. (Received September 20, 2016)