

1106-E1-1940      **Yevgeniy V Galperin\*** (egalperin@esu.edu), 200 Prospect St., East Stroudsburg, PA 18301.  
*Applications of Derivatives to Image Processing within a Calculus Course.*

We discuss how working out several derivative-based edge detection methods (the 2x2 Roberts operator, the Prewitt and Sobel kernels, and the Laplacian edge detector) helps students get new insights into the definition of the derivative. We also discuss applications of basic differential calculus to modern wavelet methods of image compression that are accessible to first-year calculus students. (Received September 15, 2014)