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Junseok Kang*, CRG, Cresskill, NJ, Cresskill, and **Richard Kyung**. *Study on the Resolution of Digital Image Using Computational and Mathematical Analysis.*

Classifying the similar small particles can be possible by using image processing. Also processing a lot of particle images using computational and mathematical analysis is possible. In image processing, a Gaussian blur is the result of blurring an image by a Gaussian function. It is used to reduce image noise and reduce detail. Changing different variables in low pass filters can change the function produced over the image domain. Originally, square functions are used during Fourier Transformations. Also, various filters were tested in creating images to find an efficient proper filter. The proposed function filters were different from the rectangular function and Gaussian function, but trial and errors were done on the new filter to have all the advantages or properties of the LPF functions. (Received September 05, 2018)