# **SUPERRESOLUTION USING PAPOULIS-GERCHBERG ALGORITHM BASED PHASE BASED IMAGE MATCHING**

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*Abstract*

*High Resolution Image provide more detail information, so that it obtain more accurate image analysis. Many areas require high resolution image, such as medical, sensing satellite, image of the telescope and pattern recognition. This research make a process to obtain high resolution images, known as superresolution. This superresolution using a series of images in the same scene as the reference image. Two main stages in the super resolution are the registration and reconstruction. An accurate registration is required to obtain a great reconstruction results. Phase-Based Image Matching* (PBIM) *will be used to estimate pixels translation at the registration stage. Only sub-pixels translation which contribute to the reconstruction phase. We used the function fitting around the peak point, to obtain sub pixel accurate shift. While reconstruct a high-resolution image use Papoulis-Gerchberg algorithm. The author collaborate registration and reconstruction. Registration using* PBIM *and reconstruction using Papoulis-Gerchberg algorithm. Experiments have been done with a series of images that contain much texture and less texture. The experimental results with images contain much texture produces an average Peak Signal to Noise Ratio* (PSNR) *21.62. While image contain less texture produces PSNR 19.54.*

*Keyword: Superresolution, Registration, Reconstruction, Phased Based Image Matching*.