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In Optical coherence tomography (OCT) imaging, disposable poly vinyl coverings and total internal reflections cause artifacts. These artifact can be removed using image inpainting, a process of filling the damaged portion of an image.

In OCT, speckle patterns are observed in the image. The speckle patterns are random and hence two different regions will have different speckle pattern. The exemplar based inpainting performs an exhaustive search since it requires that the mask and region under artifact to be similar. Hence the method is computationally expensive and time consuming.

In the proposed method, we aim to remove the artifacts in two steps using an algorithm tailored specifically for OCT. In the first step, we will study the speckle pattern close to the artifact and characterize its distribution. In the second step, we will use the estimated Gaussian distribution to remove the artifact. (Received September 25, 2012)