

## Computational photonics – Excercise 3

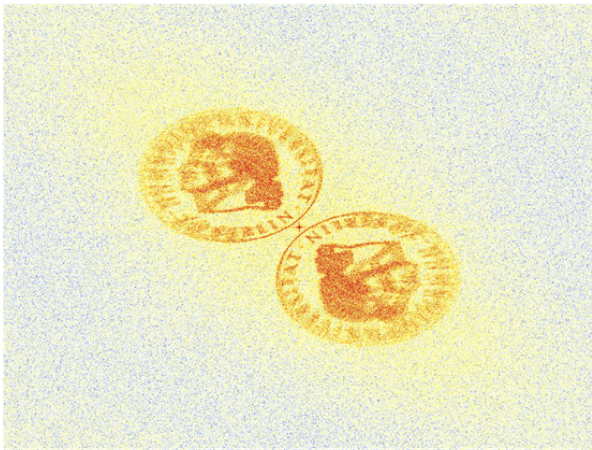
– Julien Kluge (564513) –

Date: May 14, 2019

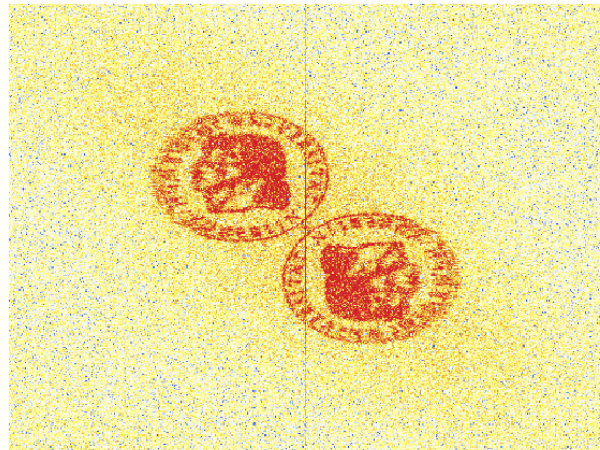
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1)

A picture of the Gerthsen wall was fourier transformed with an fft shift applied. The following images where acquired:



(a) Full section transform.



(b) Quarter section transform.

Figure 1: Image (a) used the whole image to perform the reverse transformation whereas (b) only left the left upper quadrant.

It can easily be seen, that a reduction of the region to transform on does not limit the size of the hu logo in the frequency domain but the sampling. Therefore the relative noise was increased.

The image appears twice, since it was transformed from a real valued image. Therefore the phase was lost in encoding. This forces the image to appear twice.