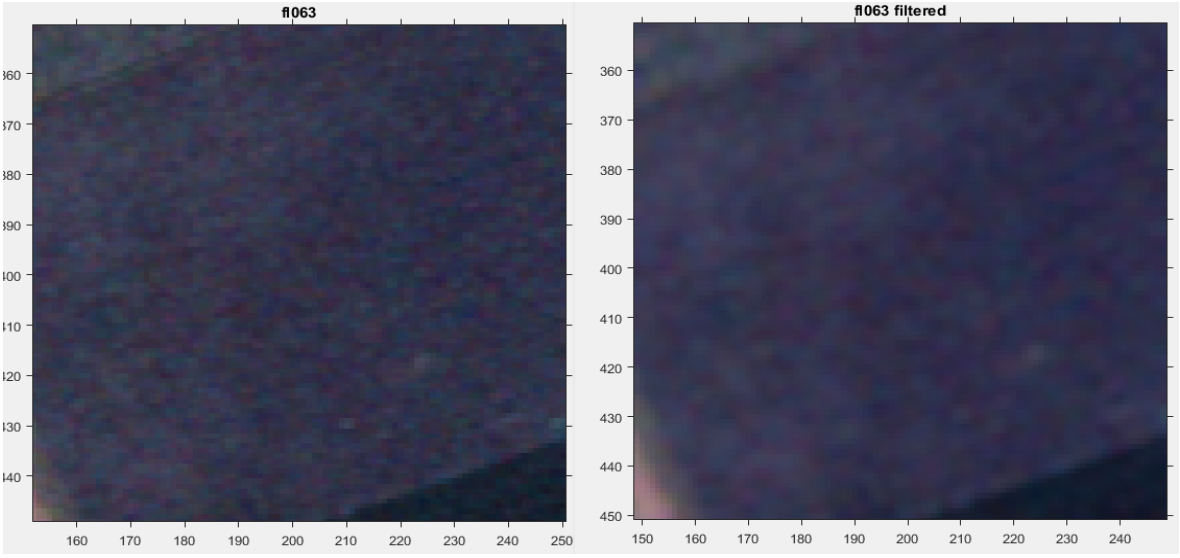

Fig 10 – Visualisation of the speckle reduction.

2.3 - Characterising the System

As mentioned in paragraph 1.2, a speckle filtering operation had already been carried out on the data leading to the multilook condition. In the same paragraph, it is noted that an *equivalent number of looks* (*ENL*) of 9-11 is expected in the case under investigation.

Therefore, after reading the data, we proceeded to the estimation of the ENL. In order to do that, the hhhh, hvhv, and vvvv data (March 21) were used, in the form of 1024x1024 matrices. Three homogeneous areas were selected, as shown in Fig. 11 and for these areas we estimated the ENL through.

$$ENL = \frac{\mu^2(I)}{\sigma^2(I)} \qquad (7)$$

This operation was repeated for all three matrices and 9 estimates were obtained.

By taking the mean value of the estimates and rounding it, the final ENL was obtained as 10, a value consistent with what was expected.

The same process was repeated for the speckle filtered images. The filtering operation causes the ENL to increase and in fact we obtained a value of 23 after it was applied.