require a substantial interaction to define the numbering of the fringes.

Our method includes a second step where we introduce the information about general properties of fringes (being lines of equal phase), namely: (1) fringes do not intersect, and (2) fringes do not end inside the field of view unless they are circular. By introducing this information we have been able to define an algorithm that "recognizes" the fringes, i.e. is able to reject spurious positions and false fringes, and connects segments belonging to the same fringe. After this step the problem of numbering the fringes is almost trivial and can be done fully automatically.

Given the modularity of the implementation, it is possible to use optional steps to improve the results at any stage in the analysis. The original image can be resampled in order to reduce the image size and the computing time; different filters can be used to reduce the noise in the original interferogram; thinning algorithms will allow a better definition of the fringes in the binary image, previously to the second step.

### 3. Results

We are testing the method on a large sample of interferograms from which we selected one example in order to illustrate the algorithm; it is a complicated case because some fringes are cut due to the presence of an object in the field of view, and the signal-to-noise ratio is not very good. The results of the method are shown in figure 1. The image in 1.a is the original interferogram; 1.b is a diagram of the positions detected in the first step of the method, it includes spurious fringe positions and shows several fringe segments; finally, figure 1.c is the resulting interferogram, where the spurious fringes are rejected and the true fringes do obey the rules defined in the previous section.

This approach can be used not only for analysis of interferograms; similar principles are applicable to the reduction of multiple object spectra (EFOSC, OPTOPUS) and echelle spectra (CASPEC).

The method has been implemented in MIDAS as a set of commands that allow the automatic analysis of the interferograms as well as the representation of the intermediate results. This implementation opens a new field of applications, so that MIDAS can be used not only for data reduction but also in the testing and integration of new instruments.

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