**Supplementary File 4. Data files outputted by analysis script**

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| Output files | Description |
| 'Modes' excel file | Data is given per pixel. For each pixel, the signal in time is used to output all the modes and corresponding amplitudes from the 512 × 512 pixel raw image data file. In order to extract the dominant mode, use the ‘AveSpectrum’. ‘f1’ is the frequency sheet of the most dominant mode, with highest amplitude in the spectrum. ‘f2’ is the frequency of the next highest mode in the spectrum. For each mode there will be 512 × 512 values (i.e., one value per pixel in the 512 × 512 FOV). Amplitudes of each mode are outputted in separate excel sheets and can be recognised in importance by their numbering.  |
| ‘AveSpectrum’ excel file | This excel averages all the modes in the ‘Modes’ excel to output the dominant modes. ‘f1’ is the frequency of the dominant peak of the average spectrum and is assigned as the CBF.  |
| ‘AverageSpectrum’ png file | A plot of the average spectrum obtained by averaging all 512 × 512 spectra obtained in the analysis of one FOV. |
| ‘workspace’ MATLAB file | Contains all outputs from the MATLAB analysis so the user can revisit for further analysis (beyond this protocol) if desired.    |