

PixelFlux Scientific – Short reference

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Respected Madam, respected Sir,

thank you for your interest in PixelFlux, a novel, award-winning software for automatic tissue perfusion quantification. We heartily invite you to download the trial versions of PixelFlux Scientific – for free, of course – and to have a glance at the following short reference.

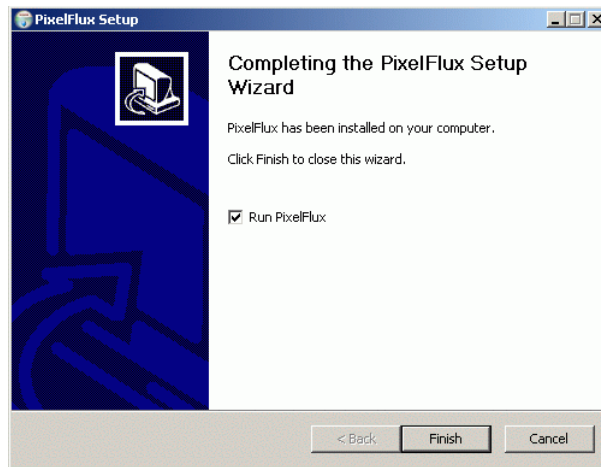
We are looking forward to your reply!

Yours sincerely,

Your development team of Chameleon Software

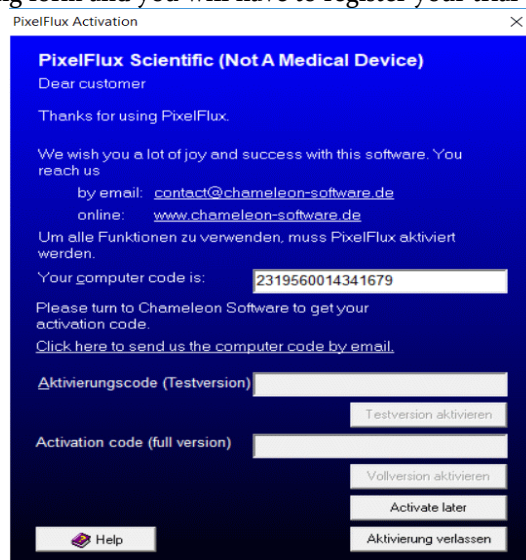
PixelFlux Scientific – Short reference


- Please install PixelFlux as follows: Browse at <http://chameleon-software.de/en/download.php> and download PixelFlux. The fully functional trial version is free. When the download is complete, execute the setup program and follow the install procedure. At the end of the setup the following screen will appear:

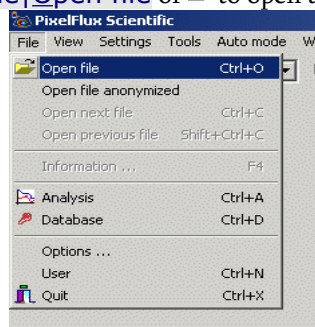


Check the check box **Run PixelFlux** in order to run the installed trial version of PixelFlux.

- PixelFlux will show the following form and you will have to register your trial version:

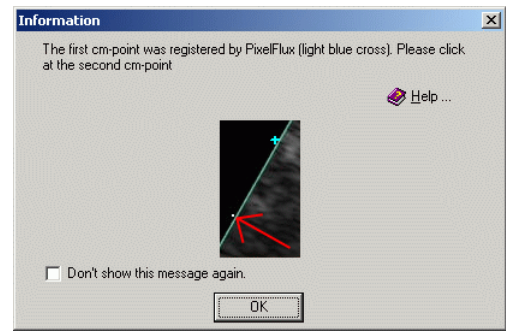
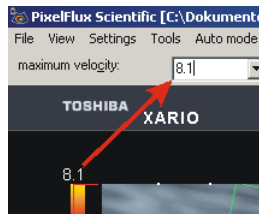
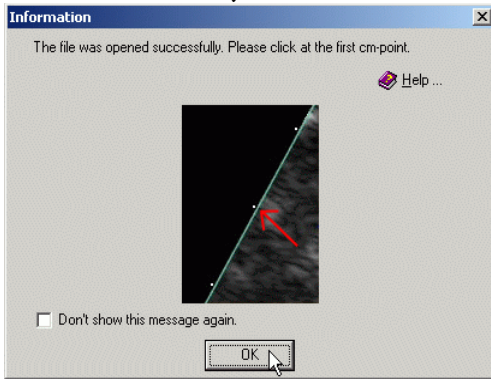


- Please turn to contact@chameleon-software.de to get your personal activation code or click at **Activate later** if you want to use (for the moment) PixelFlux with the original trial videos of Chameleon Software only. The original trial videos are available at www.chameleon-software.de (downloads) or at your trial CD.
- The main module shows up. Click at **File|Open file** or  to open a video or DICOM file.

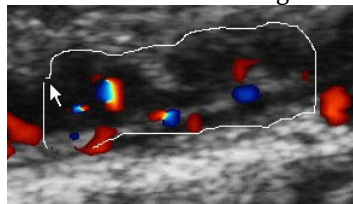


- Follow the messages of PixelFlux to calibrate the image. You have to specify the scale and the Doppler

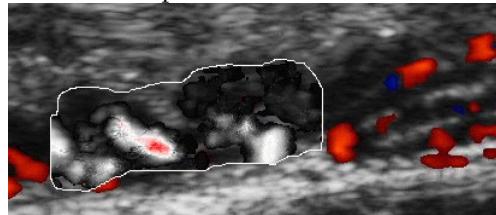
maximum velocity.



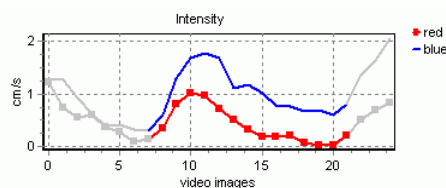
- The next step is to specify the region of interest (ROI). Just press the left mouse button, move the mouse corresponding to the shape of the ROI and let the mouse button go.



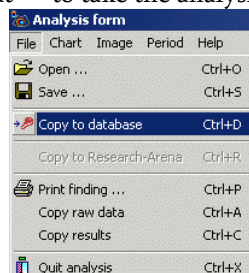
- Now, the automatic perfusion of the specified region of interest starts.
- A second later, the analysis module is opening. It shows the results of the perfusion quantification. On the one hand side, you see the so called perfusion relief (at the register card [Perfusion relief](#)), which gives you a visual impression of the local perfusion characteristics. Areas with high perfusion (in the ROI) are shown red, middle perfusion is indicated by white color and low perfusion is shown in black:



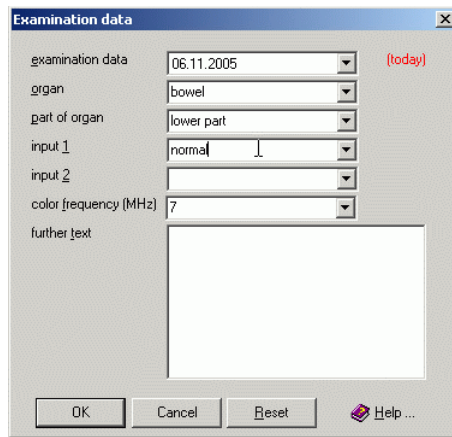
- On the other hand side you see three charts depicting the behavior of the three parameters which are calculated by PixelFlux: velocity (v), area (A) and intensity (I). Using the periodic changes of perfusion intensity, PixelFlux automatically calculates the length of a heart action. The recognized period is shown colored in the corresponding diagrams:



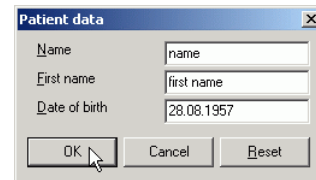
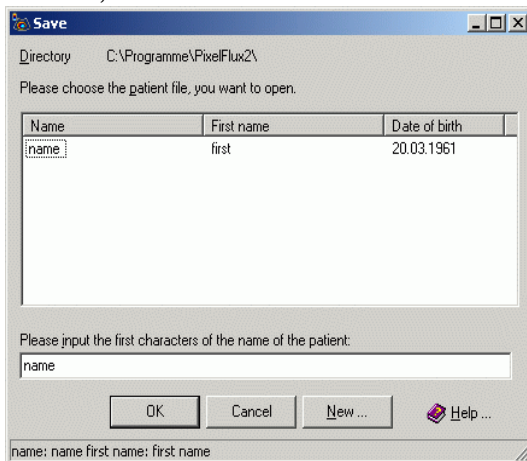
- Basing on the periodically changing parameters averages, RI's and PI's are calculated. The averages, RI's and PI's always refer to the recognized heart action – this ensures the high reproducibility of PixelFlux measurements. Besides the perfusion relief and the charts you also see the numerical results.
- Now, click at [File|Copy to database](#) or at to take the analysis results to the database.



- Specify the parameters of the examination, as they shall appear in the database:



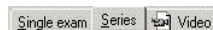
- In the following dialog, you have to create a new patient file clicking at **New ...**. Then you have to input the patient's name, first name and date of birth.



- PixelFlux' database module is now opening the created patient file. At the left side of the form you see the perfusion examinations of the patient. At the moment, there is only one examination:

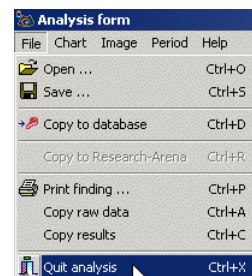
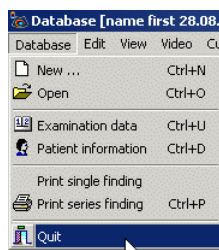
Date	Organ	Part of organ	Frequ...	\Video	inp...
04.06.2002	bowel	lower part	7	ileitis_unspecific...	nom

- The database allows to see all your examination details in an efficient way. At the right hand side, you see three register cards **Single exam**, **Series** and **Video**.



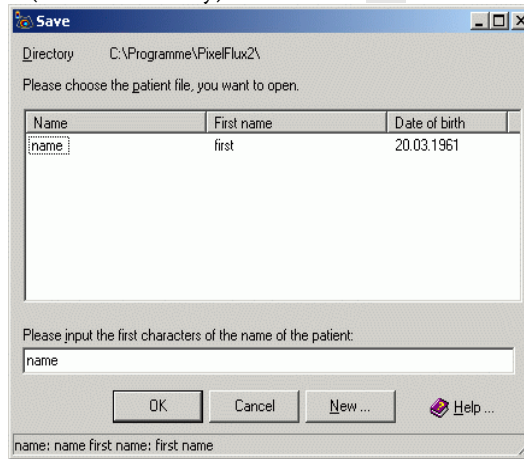
Click at **Single exam** to get again all information concerning the currently selected examination as in the analysis module. The register card **Video** shows the video which the examination is basing on, as well as other video details. Of course, you can play the video; just click at **Video|Play** or **▶**.

- The full might of PixelFlux database becomes clear, when you create a second examination. Thus, close the database module and the analysis module clicking at **Database|Quit** and **File|Quit analysis**.



- Now, create a second examination. As you can see, the calibration is still active: the light blue crosses for the cm-distance and the maximal velocity still fits. Thus, just specify a new ROI (see above). When the measurement has been done by PixelFlux, again click at **File|Copy to database** or **➤** (in the analysis module). The following window (**Examination data**) is waiting for your input concerning the current examination. Change the item **part of organ** to „lower pole“ and click at **OK** to take the exam to the PixelFlux database.

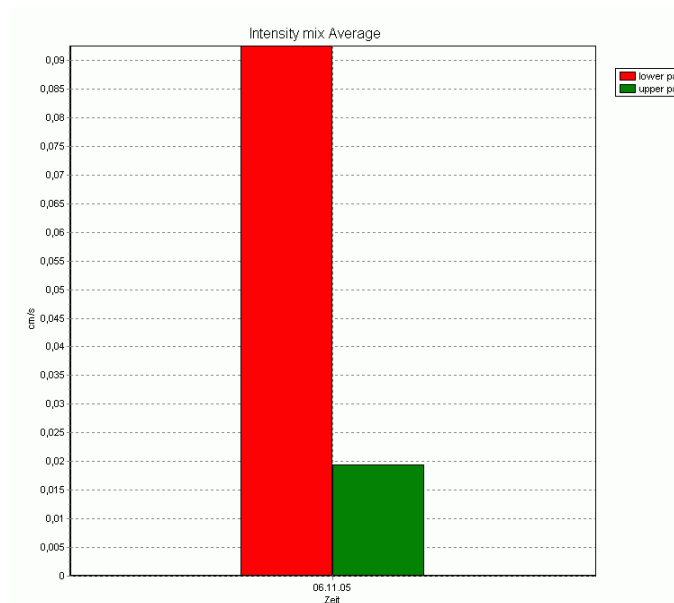
- Now, click at the only patient file (Donald Dummy) and click at **OK**:



- PixelFlux opens the PixelFlux database. Besides the first exam you see the second one (bowel, lower pole).

Existing exams			
Date	Organ	Part of organ	Frequency
06.11.2005	bowel	lower part	7
06.11.2005	bowel	upper part	7

- Click at the register card **Series** at the right side of the database window. You see a chart depicting the two exams. Thus, you get a quick, informative summary of perfusion characteristics – of different parts of one organ (as in the example) or the progression of the perfusion of organs depending on time.



This is far from complete

Now, you have an idea of PixelFlux' basic functions. Moreover, PixelFlux automatically does your measurements, allows to use geometrical presets (ruler, parallelogram), makes the calibration (maximal velocity and scale automatically), creates printable findings, exports all perfusion data ...

We heartily invite you to have a look at the PixelFlux help. Wherever you see the button



you get detailed information on handling and functionality of PixelFlux. Moreover, our web site www.chameleon-software.de contains further material as test videos, and studies performed with PixelFlux.

Visit us at www.chameleon-software.de or write us contact@chameleon-software.de, if you have questions or suggestions, criticism or commendation. We are looking forward to you.