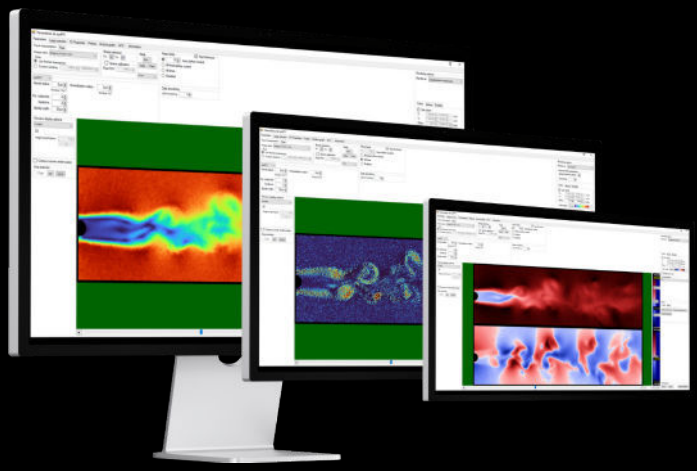
eye4you

ADVANCED IMAGING TECHNOLOGY



eyePIV

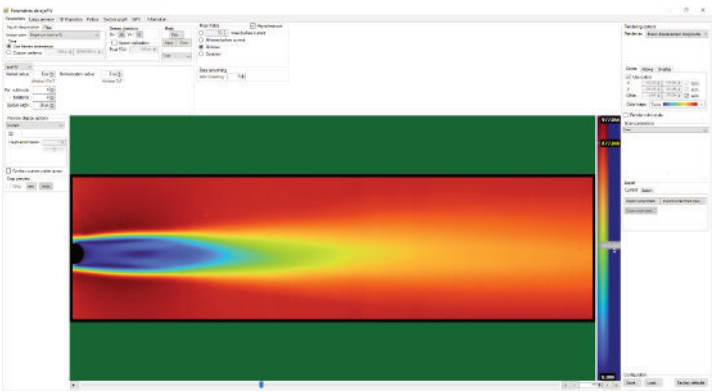
Plug-in of high precision flow analysis in a flash

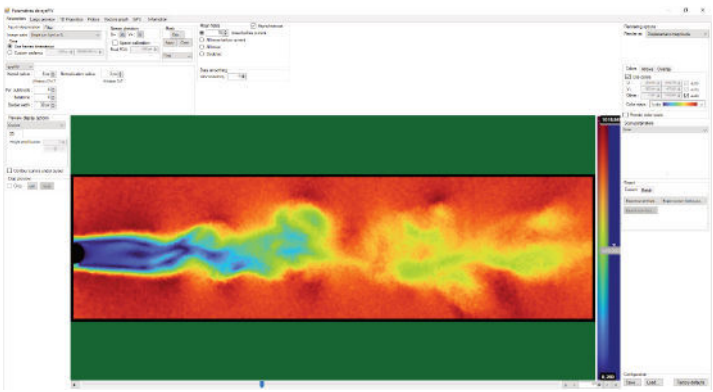
Introduction

eyePIV is a bit of a revolution in the particle image velocimetry (PIV) world. Within eyeMOTION, the eyePIV plugin allows, from flow images, to calculate 2D2C velocity fields instantly in real time or in post-processing! Its revolutionary approach is to use an optimized optical flow algorithm embedded on a graphic board (GPU). Calculation times are thus drastically reduced, while obtaining highly qualitative results.

In addition to the considerable gain in terms of spatial resolution (one vector per pixel, no diffusion at small scales, no generation of false vectors), eyePIV offers greater flexibility of use: resolution of greater speed gradients, low image noise dependence, intuitive adjustment of parameters. Our development know-how can even make it possible to output the desired quantities in real time or in instant post-processing. Storage requirements, and therefore energy, are greatly reduced, and the duration of your films can be extended (> 1h)!

eyePIV is the result of close collaboration with the Physics and Mechanics of Heterogeneous Environments Laboratory (ESPCI).





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Photon Lines SAS - Le Black - 10, avenue des Touches - 35740 Pacé - France
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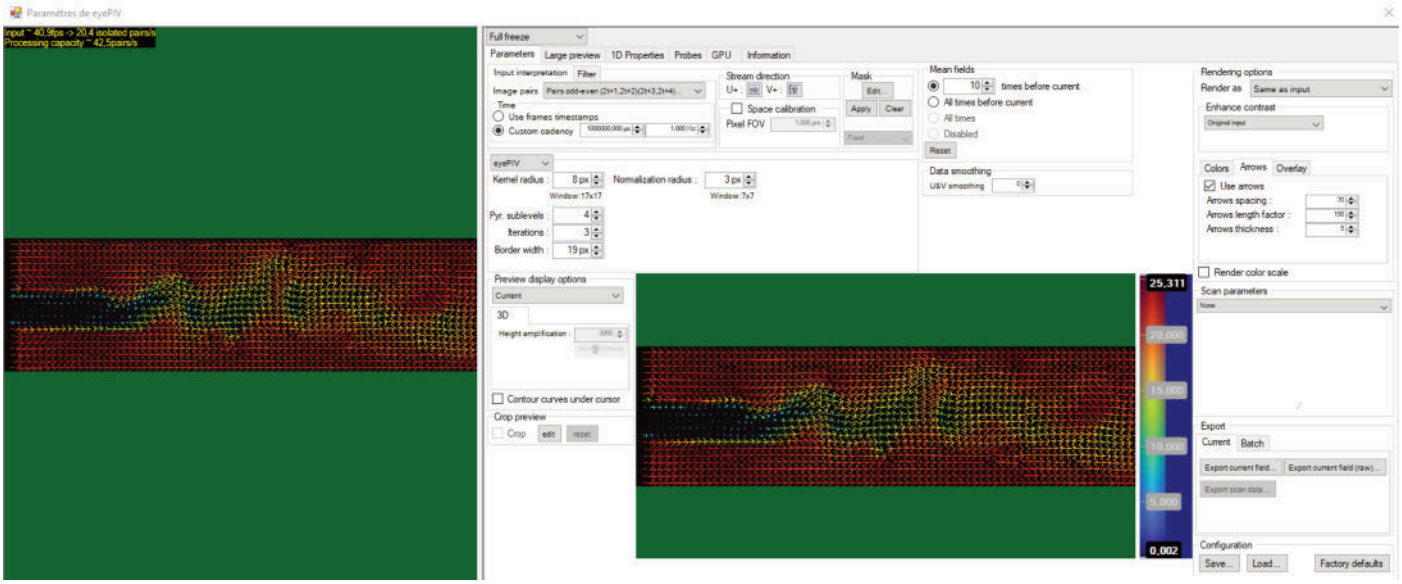
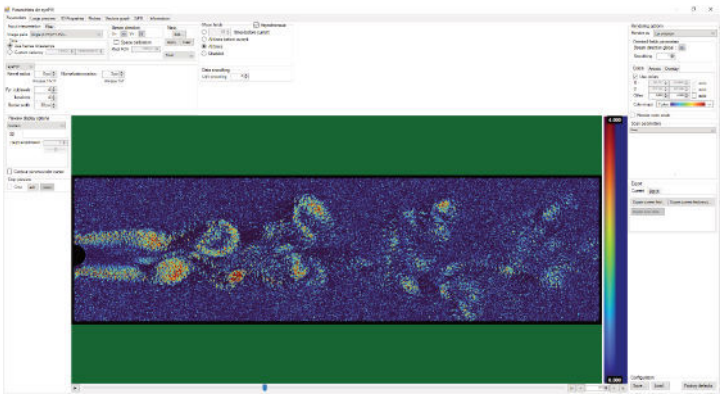


Features

Already tested and approved by reference research centers renowned for their works on fluid dynamics, eyePIV provides ultra-fast and reliable results with the following characteristics:

- 1 velocity vector per pixel
- No small scale diffusion effect
- No generation of erratic vector
- Poorly affected by image noise
- Resolution of high flow speed gradients
- Intuitive user interface
- Low data storage requirements
- Low energy consumption



Applications

Ideal for any kind of flow analysis need, eyePIV has already demonstrated its efficiency in the following use cases:

- Turbulent flow over a backward-facing step: high resolution velocity field
- Vortex flow: time-resolved velocity field and turbulent kinetic energy field
- Air (smoke) around a vibrating wing: high resolution velocity field
- Microfluidics in biological capillaries: high resolution velocity field
- Granular medium flow in a rotating drum: high resolution velocity field and turbulent kinetic energy field

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