



RIVeR 3.1.0



Files for cases

RIVER

Rectification of Image Velocity Results

De donde viene?
Where does it come from?



RIVeR-LAC
2024 -2025



Repositorio

Repository



Screenshot of the GitHub repository page for **oruscam/RIVeR**.

The repository is public and has 14 stars, 3 forks, and 3 watchers. It contains 2 branches and 3 tags.

The commit history shows the following files and their commit dates:

File	Commit Message	Commit Date
examples	Initial public commit	2 months ago
gui	Add mkv at file extensions on getVideo.ts	15 hours ago
river	Bump to 3.1.0	15 hours ago
.gitignore	Initial public commit	2 months ago
CHANGELOG.md	Update CHANGELOG.md	20 hours ago
LICENSE	Initial public commit	2 months ago
pyproject.toml	Bump to 3.1.0	15 hours ago
readme.md	Update readme.md	last month
requirements.txt	Initial public commit	2 months ago
sample_report.html	update sample_report.html	2 months ago

The repository also includes a README, a License, and a sample_report.html file.

The right sidebar shows the repository's metadata, including the number of stars, forks, and watchers, and a list of releases.

Repository

Repository



[oruscam/RIVeR](#)

[Insights](#) [Settings](#)

[Edit Pins](#) [Unwatch 3](#) [Fork 2](#)

[Add file](#) [Code](#)

[b7c · 15 hours ago](#) [53 Commits](#)

[2 months ago](#)

About

*No description, w
provided.*

[Readme](#)

Repositorio

Repository



[oruscam/RIVeR](#)

Report repository

Releases 3



RIVeR v3.1.0

Latest

15 hours ago

[+ 2 releases](#)

Packages

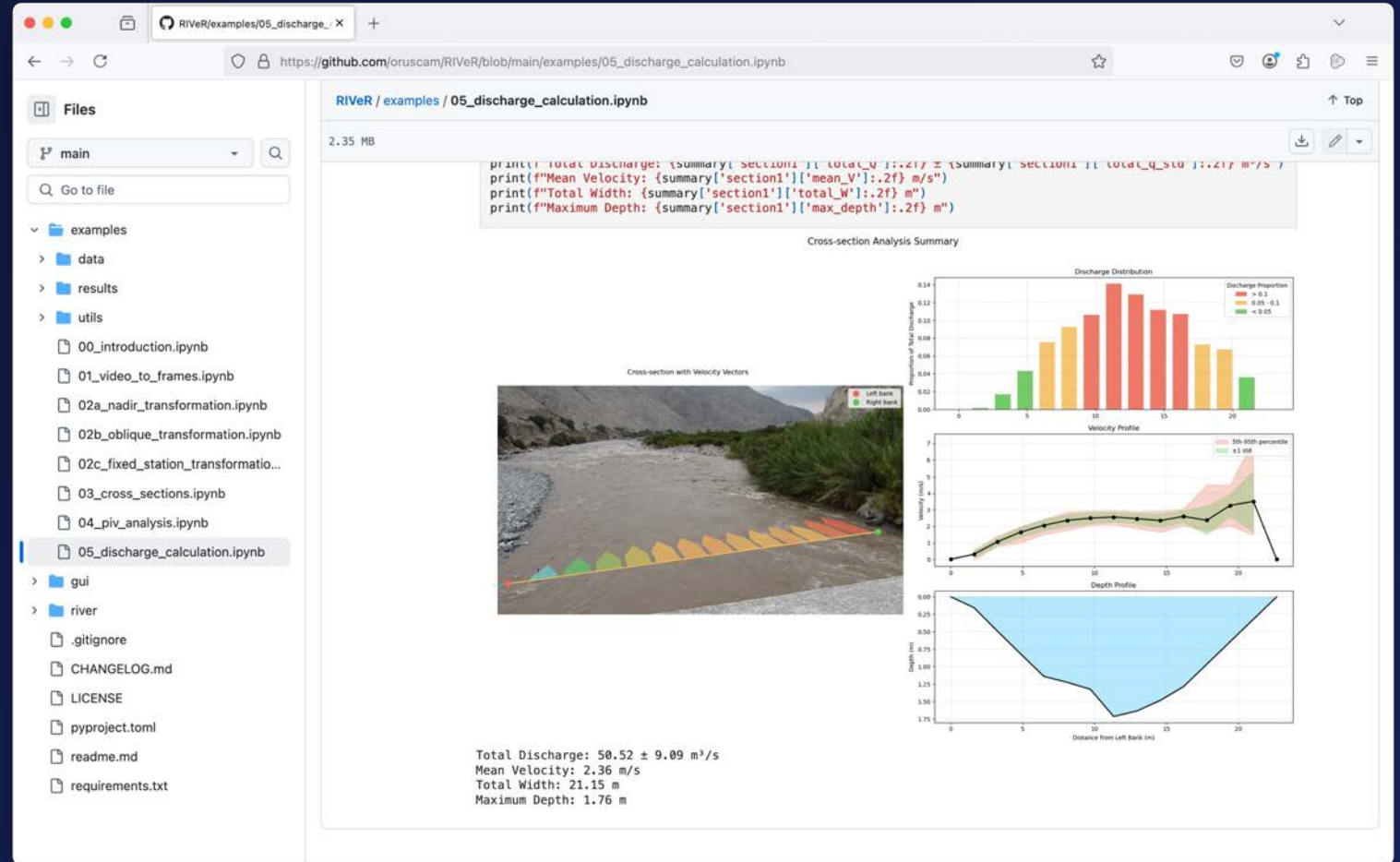
CLI
CLI

```
> pip install river-cli
```



Ejemplos en Jupyter

Jupyter examples



Distribución

Distribution



Características Principales

Key Features

License **AGPL v3**

python **3.11+**

react **18.0+**

✓ Más simple
simpler

✓ Más intuitivo
more intuitive

✓ Mejor diseño
Better design

✓ Código abierto
Open source

✓ Multiplataforma
Multiplatform

Una herramienta más

Another tool



Pasos Principales

Main Steps

- **Procesa imágenes de múltiples fuentes**

Process footage from multiple sources

- **Extracción de imágenes de videos**

Frame extraction from videos

- **Análisis PIV basado en FFT**

FFT-based PIV

- **Visualización interactiva de resultados**

Interactive result visualization

- **Transformaciones de coordenadas**

Coordinate transformations

- **Análisis de flujo de múltiples secciones transversales**

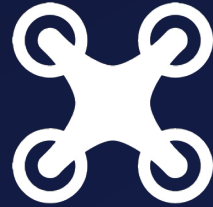
Multi Cross-sectional flow analysis

- **Generación automática de informes**

Automated report generation

Clasificación de videos

Videos classifications



Videos de drone (vista ortogonal de la superficie)



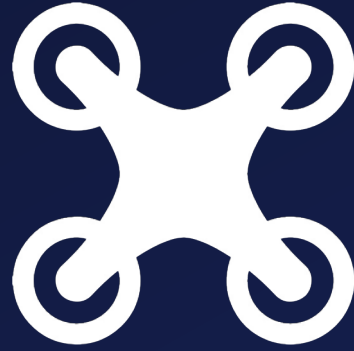
Videos grabados desde una margen. Mediciones “One shot”



Videos grabados con cámara fija par monitoreo continuo

Clasificación de videos

Videos classifications



Videos de drone (vista ortogonal de la superficie)

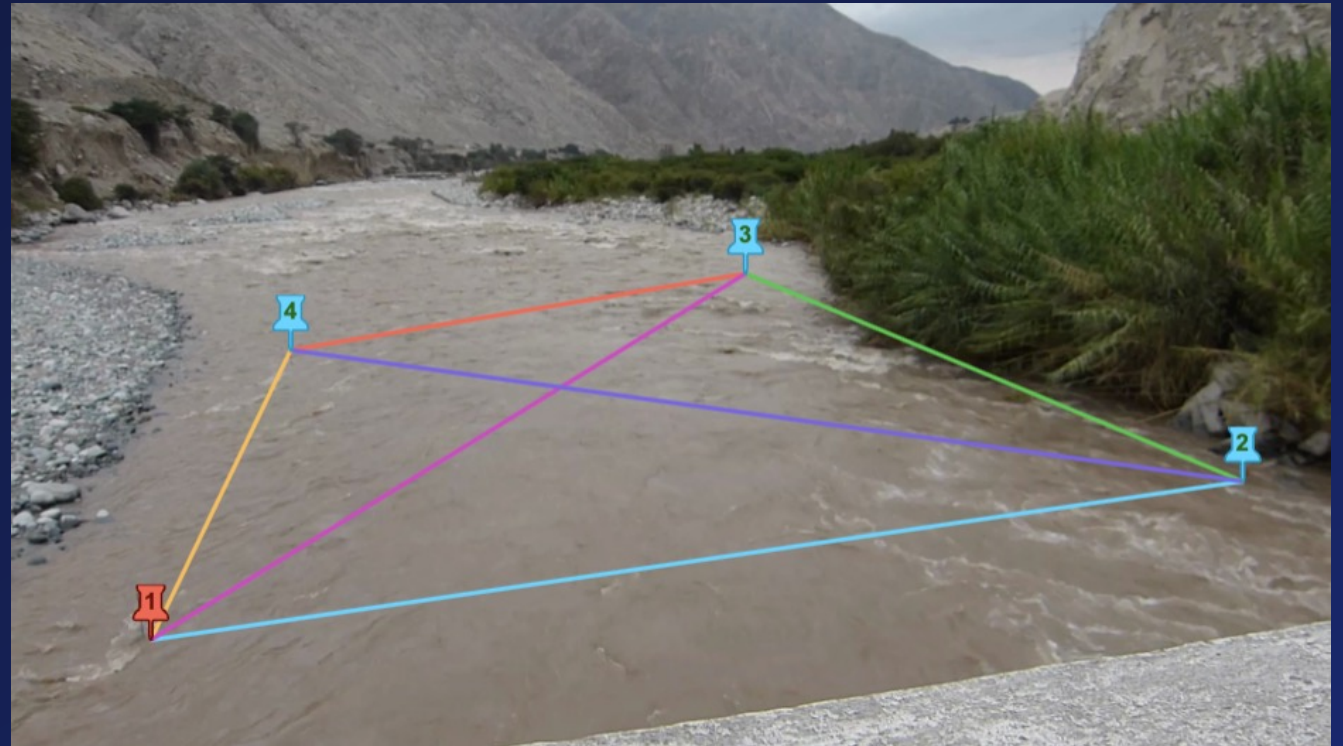


Clasificación de videos

Videos classifications



Videos grabados desde una margen. Mediciones “One shot”



Clasificación de videos

Videos classifications



Videos grabados con
cámara fija par monitoreo
continuo



Coordenadas pixel
(Imagen)

Pixel coordinates (Image)

Coordenadas Mundo
Real

Real World coordinates



Rectificación

Rectification

Coordenadas pixel
(Imagen)

Pixel coordinates (Image)



Rectificación
Rectification

Coordenadas Mundo
Real

Real World coordinates



Δt

Velocidad [m/s]

Velocity [m/s]

Coordenadas pixel
(Imagen)

Pixel coordinates (Image)



Rectificación
Rectification

Coordenadas Mundo
Real

Real World coordinates



Δt

Velocidad [m/s]

Velocity [m/s]

Rectification of Image Velocity Results

Rectification of Image Velocity Results

$R \mid Ve R$



RIVER

Rectification of Image Velocity Results



Caso 1

Case 1



Rio Grande Orosi #9-19

Filename: oblique.mp4

1-2: 28.53m

2-3: 13.15m

3-4: 50.4m

4-1: 41.52m

1-3: 27.86m

2-4: 60.4m

1x

x4

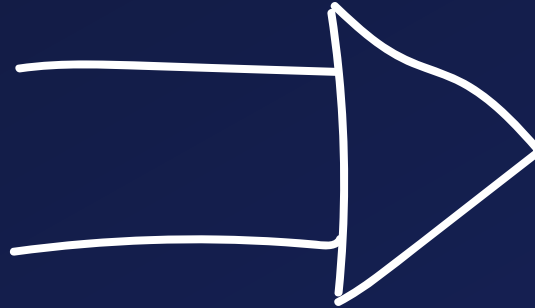


x2

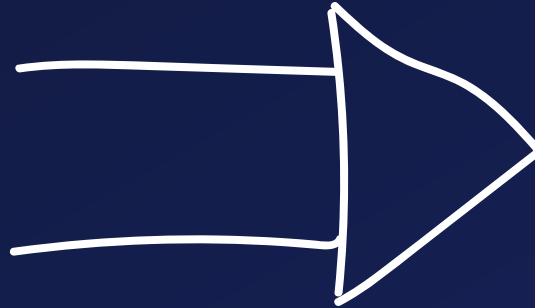
3x



4 puntos anti horarios
4 counterclockwise points



4 puntos anti horarios
4 counterclockwise points



4 puntos anti horarios

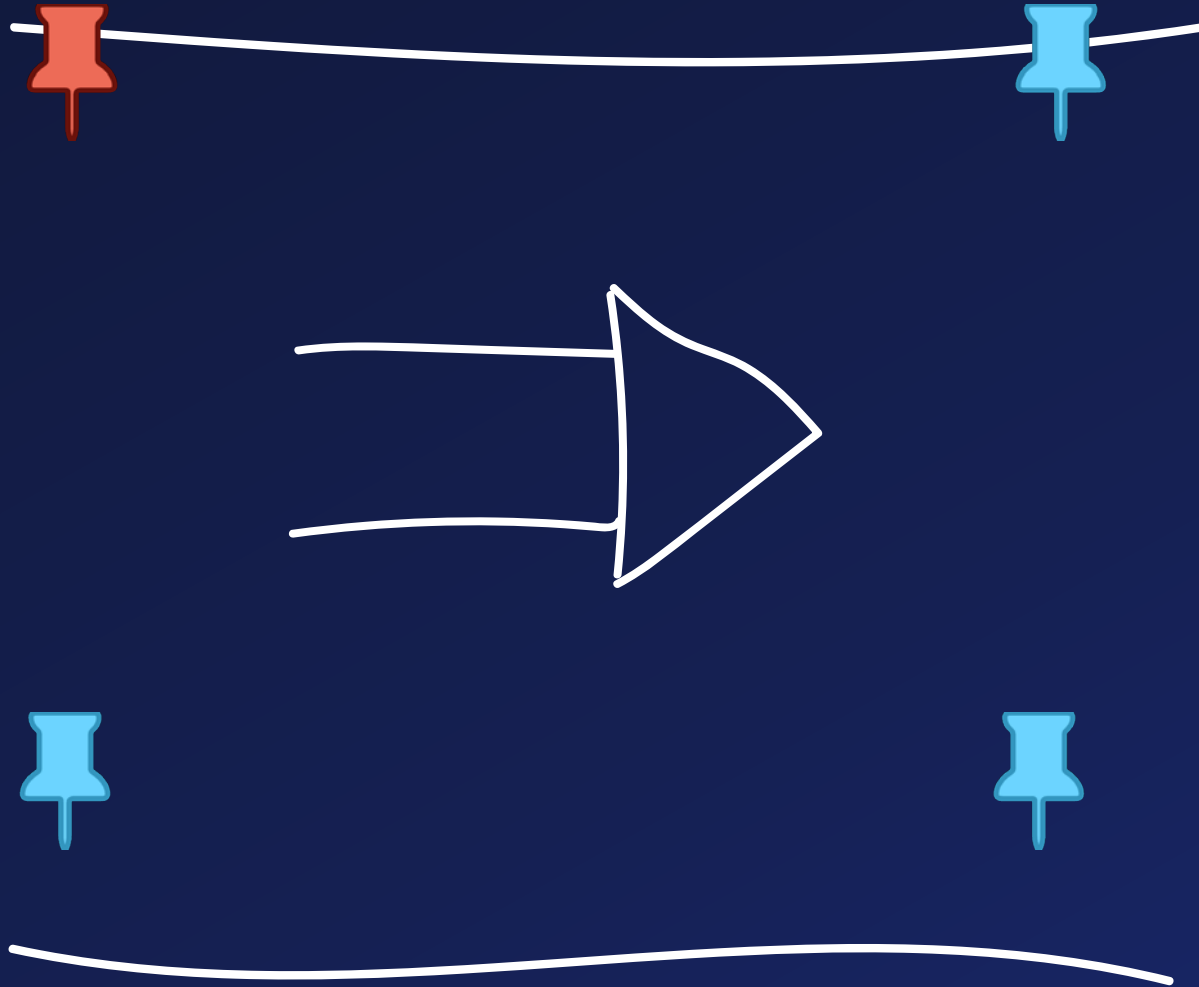
4 counterclockwise points



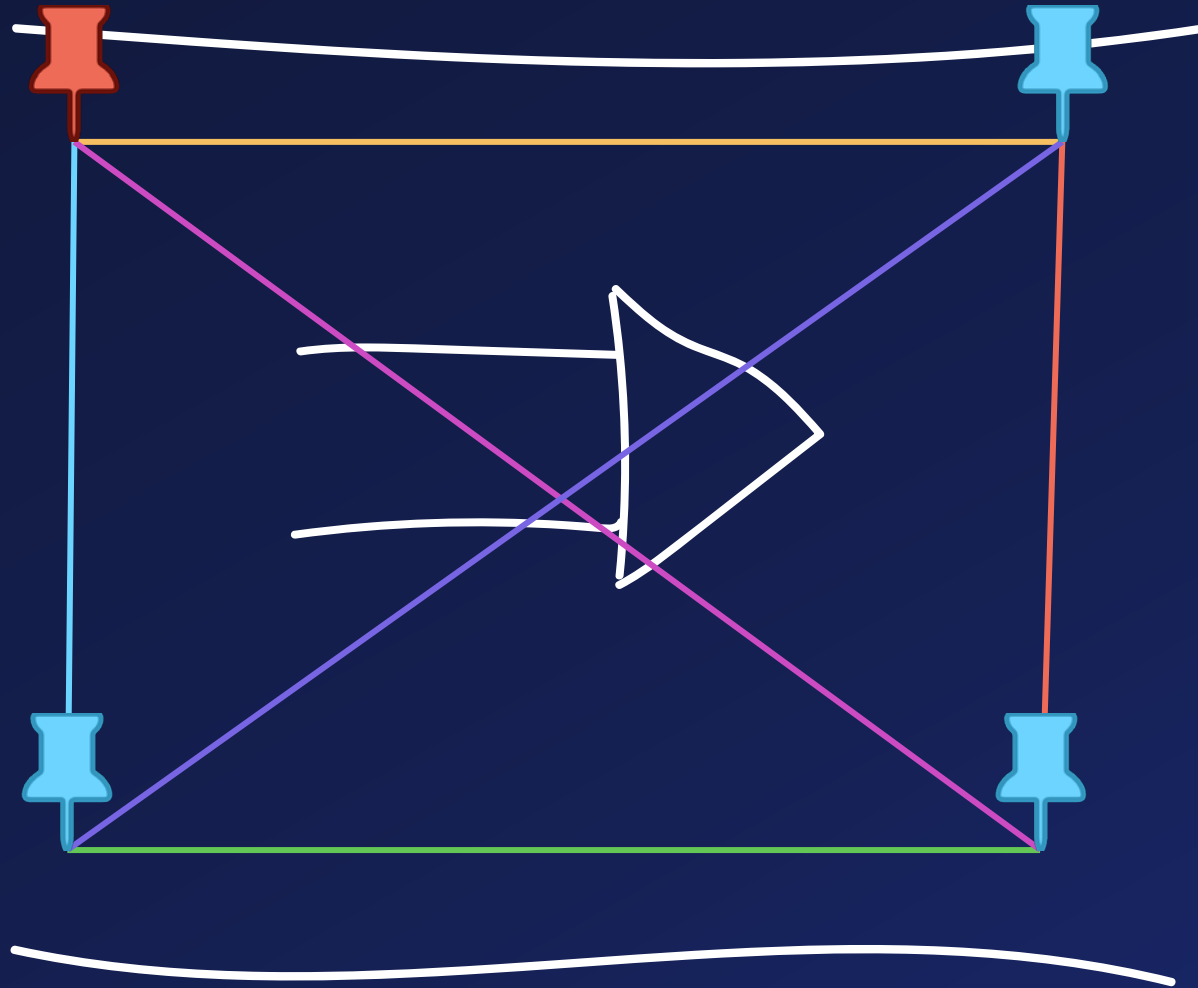
Margen izquierda aguas arriba
Upstream left bank

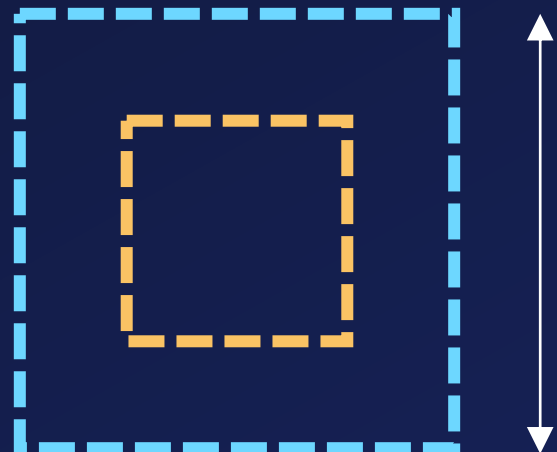


4 puntos anti horarios
4 counterclockwise points



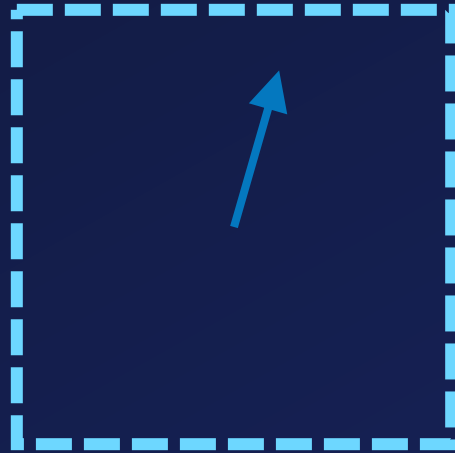
4 puntos anti horarios
4 counterclockwise points





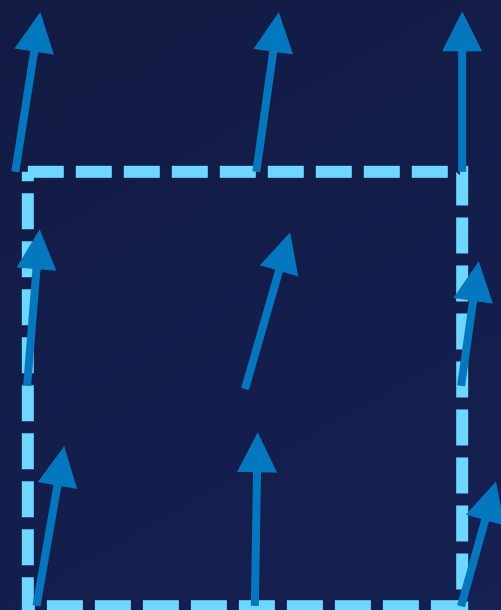
128 pix

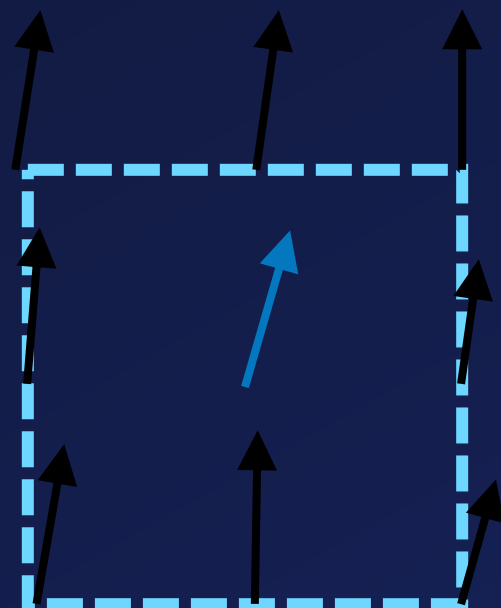


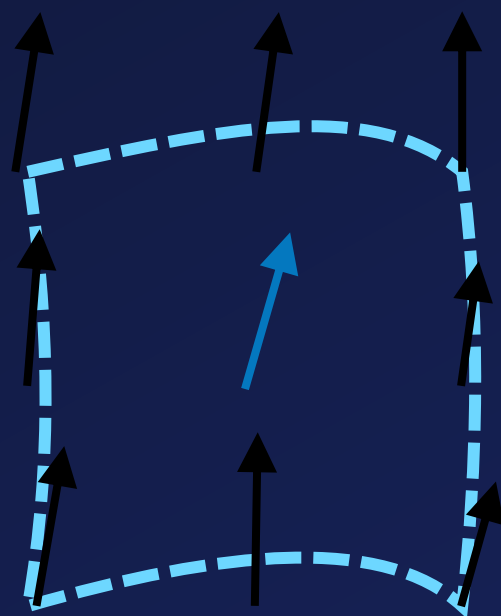


desplazamiento promedio a dentro de la ventana
entre 2 imgaenes

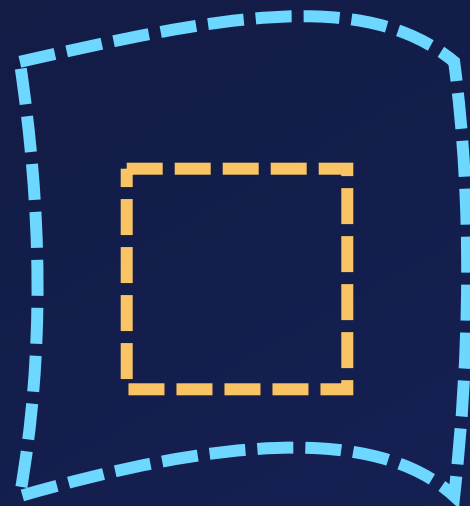
Average displacement inside the window between 2 frames

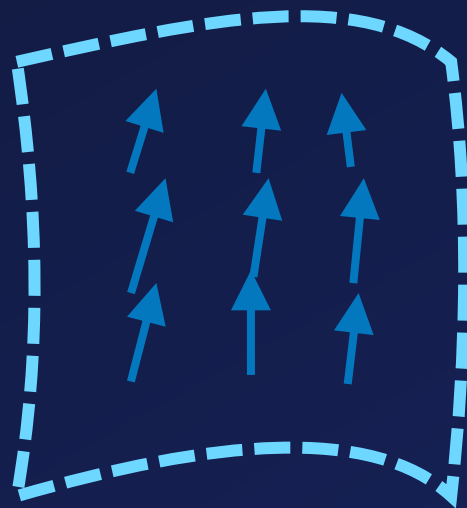






deformación de la ventana original
deformation of the original window



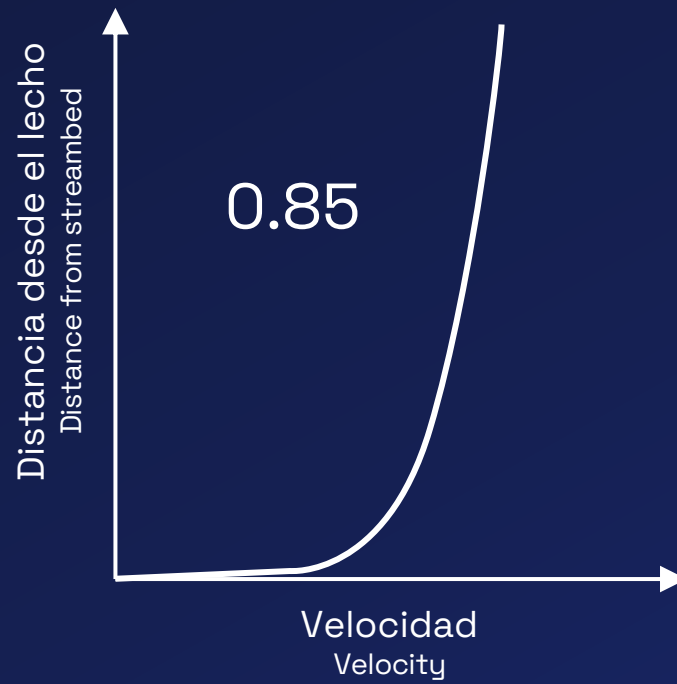


Aumento de la resolución
Resolution enhancement

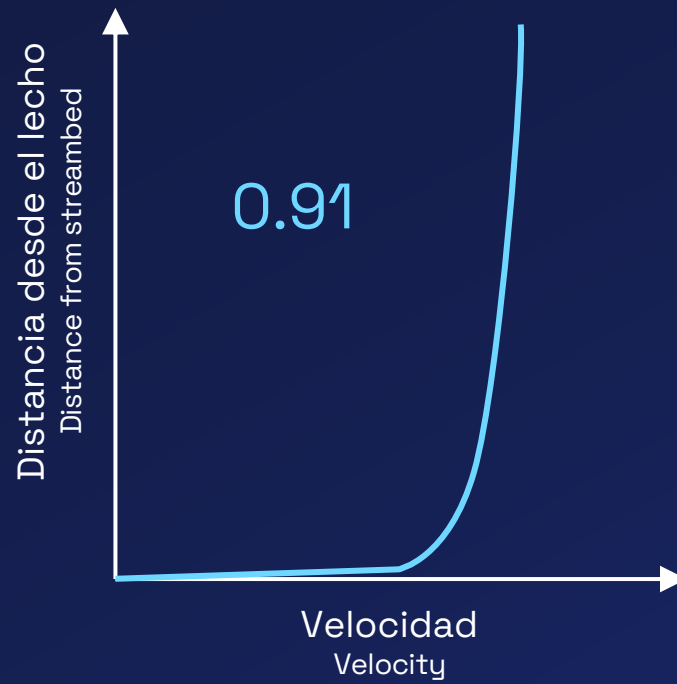
$$Q = V_m * A$$

$$V_m = V_s * \alpha$$

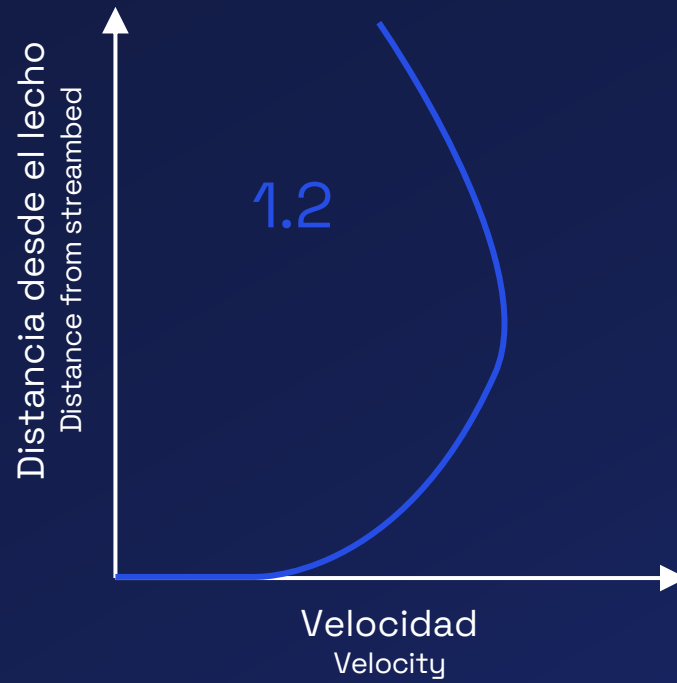
$$V_m = V_s * \alpha$$



$$V_m = V_s * \alpha$$



$$V_m = V_s * \alpha$$




$$\alpha = f$$

bed geometry
geometry upstream and downstream
roughness
secondary flows
wind

C:\Users\[user]\River

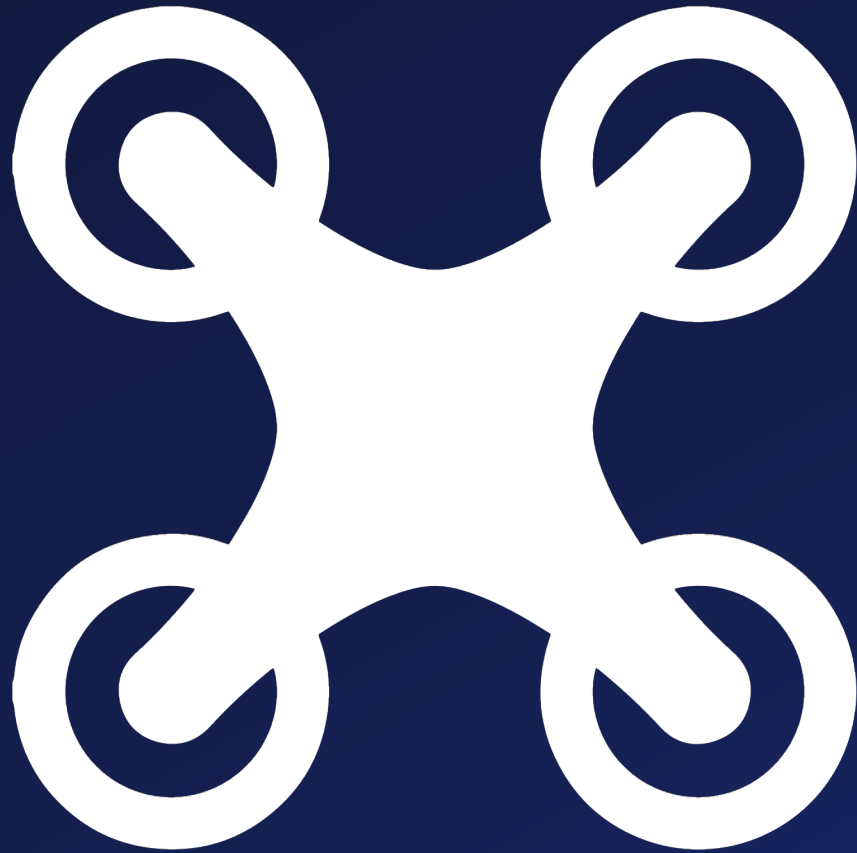
Windows

/Users/[user]/river/

Macios, Linux

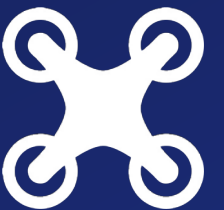
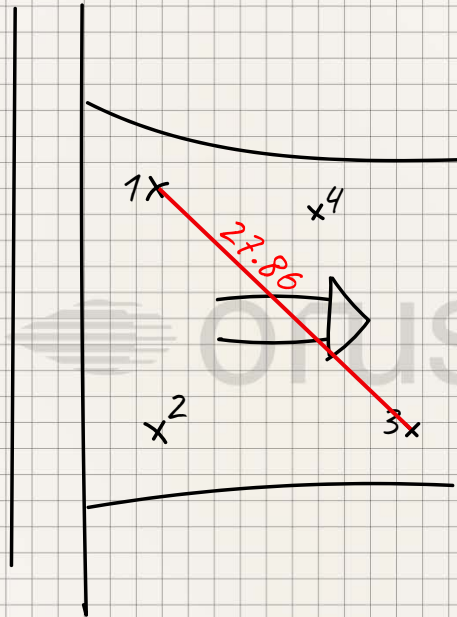
Caso 2

Case 2



Rio Grande Orosi #9-19

Filename: drone.mp4



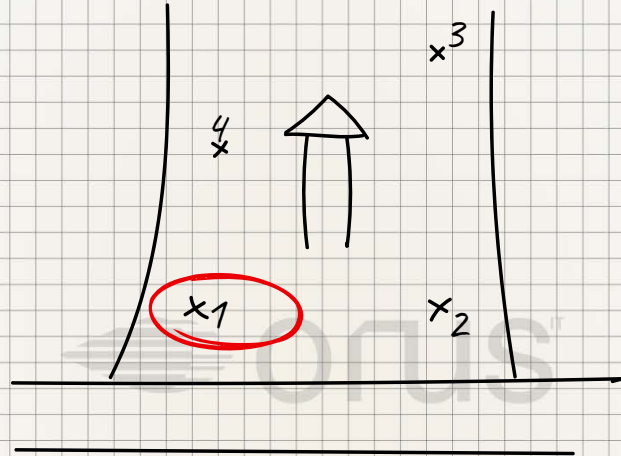
Caso 3

Case 3



Río Grande Orosi #9-19

Filename: no_tripod.mp4



1-2: 28.53m

2-3: 13.15m

3-4: 50.4m

4-1: 41.52m

1-3: 27.86m

2-4: 60.4m



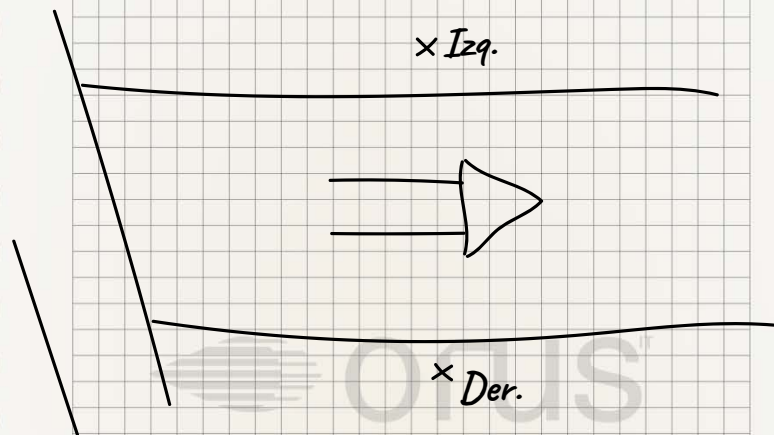
Caso 3

Case 3



SUQUIA

Filename: SUQUIA20240327T1450.mp4



$H=380.3m$

Izquierda (4388506.5 6523973.31)

Derecha (4388453.15 6523960.03)

$$Q_{HQ} = 160m^3/s$$

47 puntos



Soporte

Support

Documentación README de GitHub

GitHub README documentation

Ejemplos interactivos en notebooks de Jupyter

Interactive Jupyter notebook examples



Preguntas y respuestas en la sección de Discusiones



Q&A in Discussions section

Próximamente tutoriales en video (pronto)

Video tutorials coming (soon)

RIVER

Rectification of Image Velocity Results



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RIVER

Rectification of Image Velocity Results