



## THE ULTIMATE FINITE VOLUME SCHEME

A. X<sup>b\*</sup>, B. Y<sup>a,b</sup>, C. Z<sup>b</sup>

<sup>a</sup> Departamento de Matemática e Aplicações e Centro de Matemática, Campus de Gualtar - 4710-057 Braga, Portugal.

<sup>b</sup> Institut de Mathématiques de Bordeaux, UMR 5251, Université de Bordeaux 33405 Talence, France.

### ABSTRACT

In this work we develop a general framework to derive and analyze everything following [1] and [2].

### INTRODUCTION

In this work we develop... [3].

### SECTION 1

I can write complicated equations

$$\rho \frac{d}{dt} \left( \frac{1}{\rho} \right) - \nabla \cdot U = 0, \quad \rho \frac{d}{dt} U + \nabla P = 0, \quad \rho \frac{d}{dt} E + \nabla \cdot (PU) = 0, \quad (1)$$

where  $\rho$  is the density,  $U$  the velocity and  $E$  the total energy. The previous system is equipped with a thermodynamics closure (equation of state EOS)  $P = P(\rho, \varepsilon)$  where the specific internal energy is given by  $\varepsilon = E - \frac{U^2}{2}$ .

### Subsection

Subsections.

### Subsubsection.

And subsubsections. Figure example see Figure 1.

Table example see Table 1.

**FIGURE 1:** Figure Caption here.

### ACKNOWLEDGMENT

Thanks to everyone.

### REFERENCES

- [1] J. Doe *The almost ultimate finite volume scheme: part I* Journal of Dead-End Idea, vol 442567, Elsebeer, 2013.

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\*Correspondence to author@univ-of-Groland.gl

**TABLE 1:** Why my scheme is better than yours.

Schemes	CPU Time	Memory
Mine	1.5	5Mb
Your	24.3	200Mb
Their	44.2	235Mb

- [2] J. Doe *The almost ultimate finite volume sheme: part E* Journal of Dead-End Idea, vol 442567, Elsebeer, 2019.
- [3] J. Doe *The almost ultimate finite volume sheme: part XXIV* Journal of Dead-End Idea, vol 442567, Elsebeer, 2020.