readme

Haochen(Langford) Huang

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1 Readme

Normally, a documentation would consist of two major parts: Introduction & Backround and Function. The first part will introduce the purpose of the corresponding program and the governing equations it solved and other thing developers and users should be aware of *e.g.* in which method the program solve the overall problem. Pragmatic program will be explored line by line in the second part. It first contains a table to clearify all the parameters and their physical representatives as shown in Table.1. The

Name	Data type	Status	Option	Representation (before/after)
a	scalar*	update	complusory	$\delta \mathbf{u}^{*,k}/\delta \mathbf{u}^{*,k+1}$
b	scalar*	unchange	complusory	RES
dt	double	unchange	complusory	Δt
l	int	unchange	complusory	mesh level
data	struct Vsicosity	unchange	complusory	$\mu^{n+\frac{1}{2}}, \rho^{n+\frac{1}{2}}, \Delta t$

Table 1: Referenc table of parameters.

highlighted row in the table indicates such paramter is either the output or has been updated. Second subsection always concerns with detals and specific technique the function employed. Finally the third part is the workflow of the program.

Throughout documentation font *para* represents exact name of parameters and **function** represents exact name of the function.

Tikz inside text example: ■.

2 Program Workflow Example

Starting Point
input:
$f = \Phi^n$ $uf = u_f^{n+\frac{1}{2}}$
flux(empty) *dt*=Δt
$src = \mathbf{g}^n$
gradient:
$g = \nabla f = \nabla \Phi$

```
void tracer_fluxes (scalar f,
                    face vector uf,
                    face vector flux,
                    double dt,
                    (const) scalar src)
{
  vector g[];
  gradients ({f}, {g});
```