

Anisotropic pac with medcoupling

1 Introduction

Validation made by : Van quang DINH.
Report generated 19/02/2019.

1.1 Description

The cas test for modelling the anisotropic conduction in the GDL of PEMFC

1.2 Parameters TRUST

- Version TRUST :
- Version Trio_U from out: /home/dinhvan/formation_trust/pemfc/pemfc-exec.opt (1.7.6)

1.3 Test cases

- ./PEMFC_2D_aniso_withMEDCouplingFull.data :

2 Thermal diffusivity

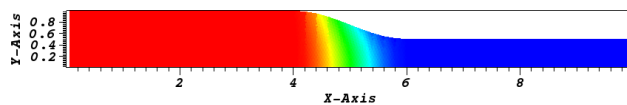
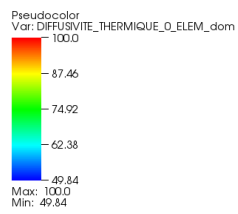
Here is the visualization of all components of the thermal diffusivity located at elements.
the matrix of conductivity (2D) is a 2x2 symmetric matrix

2 THERMAL DIFFUSIVITY

2.1 component 0

2.1 component 0

DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731

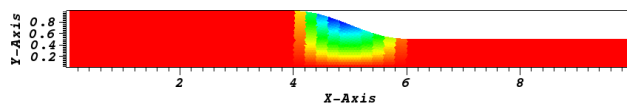
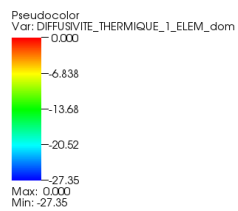


2 THERMAL DIFFUSIVITY

2.2 component 1

2.2 component 1

DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731

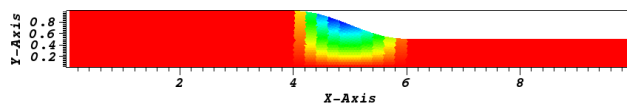
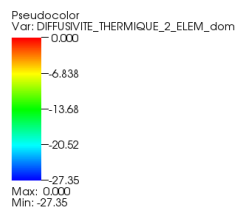


2 THERMAL DIFFUSIVITY

2.3 component 2

2.3 component 2

DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731

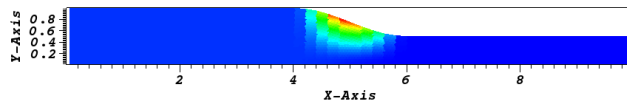
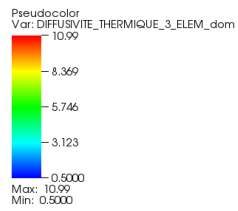


3 TEMPERATURE

2.4 component 3

2.4 component 3

DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731



3 Temperature

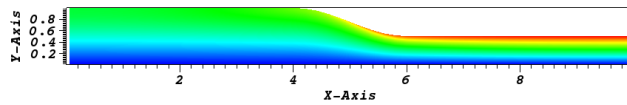
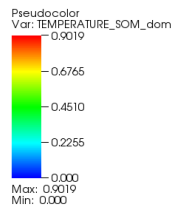
Here is the visualization of the temperature.

4 GRADIENT OF TEMPERATURE

3.1 Temperature field located at vertices

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DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731



4 Gradient of Temperature

Gradient of Temperature

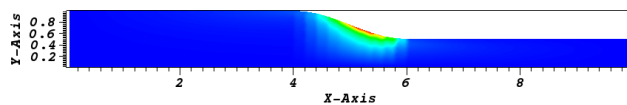
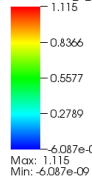
4 GRADIENT OF TEMPERATURE

4.1 Flux field located at vertices - composant x

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DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731

Pseudocolor
Var: GRADT_X_SOM_dom
1.115



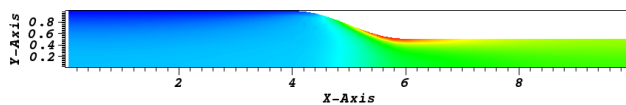
4 GRADIENT OF TEMPERATURE

4.2 Flux field located at vertices - composant y

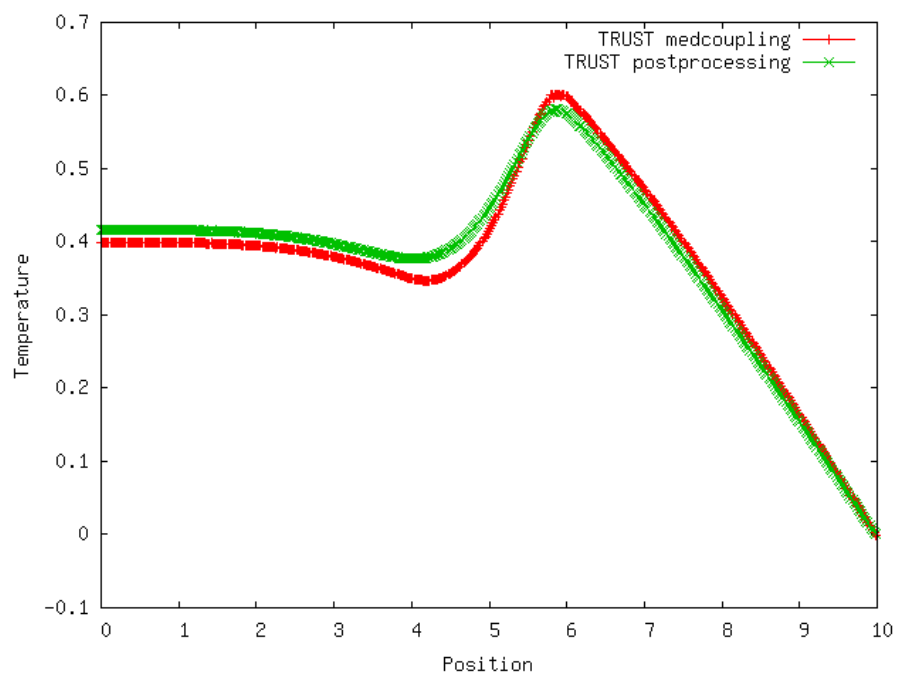
4.2 Flux field located at vertices - composant y

DB: PEMFC_2D_aniso_withMEDCouplingFull.lata
Time: 1.64731

Pseudocolor
Var: GRADT_Y_SOM_dom
3.019
2.264
1.510
0.7548
-5.578e-06
Max: 3.019
Min: -5.578e-06



**5 Comparison of temperature (TRUST) with and without the
correction of conductivity magnitude on the segment $[P1,P2]$
with $P1=(0;1)$ and $P2=(10;0)$**



6 Comparison of flux between (TRUST) with and without the correction of conductivity magnitude on boundary Haut

6.1 Flux au bord Haut

