

Re: looking for package for convection–diffusion PDEs

Source: <http://sci.tech–archive.net/Archive/sci.math.num–analysis/2008–01/msg00306.html>

- *From:* Torsten Hennig <Torsten.Hennig@xxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 25 Jan 2008 08:10:37 EST
-

<> >Hi,

Does anyone know of a fortran package to solve the
>>convection–
diffusion PDE's
(maybe using the finite volume formulation)? I am
>>looking to solve a
chemically reactive flow problem.

I saw Clawpack, but that one is for hyperbolic PDE's. >It
>does offer
one example of the advection/diffusion problem >(http://
www.amath.washington.edu/~claw/), but not being an
>>expert, I am
wondering how robust clawpack is for such problems.

Thank you,

Mirko

Some questions concerning your request:

Do you want to model in 1d, 2d or 3d ?

2d–azimuthally symmetric

Re: looking for package for convection–diffusion PDEs

Is the flow convection– or diffusion–dominated ?

I think the flows are more diffusion dominated, but I >could have
borderline cases.

Best wishes
Torsten.

Thanks,

Mirko

Hi,

in my opinion, for reacting flows with mild convection, CLAWPACK is not the best choice.

Better try KASKADE or KARDOS available at

<http://www.zib.de/Numerik/software/kardos/>

Best wishes
Torsten.

.