

Review on  
dynamics / numerics / LBCs  
activities

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# THE CONTEXT

Context for cooperations:

- In the domain of dynamics a quite close "code cooperation" is emerging between three consortia (AL+EC+HI)
- This involves: NH Dynamics, Numerics, and to a lesser extent: LBCs and plane geometry.
- Political decision that encompasses dynamics: e.g. physics, DA, also -though less- involved

# THE CONTEXT

- In one sense this is stronger than "SRNWP-type" cooperations (visits, common code...)
- This trilateral cooperation already involves power and it is felt that building an actual cooperation with UK and CO will be more difficult (3 levels of cooperations).
- Question: how to better cope with this ?

# CURRENT STATUS

Main areas of common interest well identified:

- VFE-NH - NH systems
- NH applications (large domains,  $Dx=0.5-1$  km)
- Spectral vs. GP
- SL conservation
- LBCs
- Links between numerical diffusion / 3D-turbulence
- Phys/Dyn interface (multi-phase problem)
- Academic experiments

# CURRENT STATUS

VFE-NH - NH systems : (A+E+H)

Try to find robust VFE-NH discretization.

May require choice of alternative set of NH system  
and/or prognostic variables

Aim also to get rid of controversial "d" NH variable

# CURRENT STATUS

NH applications :  $D_x=0.5-1$  km (A, U, H)

List obstacles, share experience

Address strategic (longer terms) decisions

Spectral vs. GP (A, E, H)

Longer-term survey

NH applications : Large domains (A, H)

Evaluate obstacles, implement known solution

# CURRENT STATUS

SL conservation (H, U)

Next generation SL schemes

Converge toward common strategy

- LBCs (A, H, U)

Yes, ... shared interest, but ...

What to do in very different contexts ?

# CURRENT STATUS

- Links Num Diff / 3D-turbulence (A, E)

Use Numerical Diffusion in the SL canvas as a first approximation of 3D turb (oh, my god!)

Evaluate the relevance of this "ad hoc solution"

- Phys/Dyn interface (A, E, H)

The evil topic even inside ALADIN consortium...

Moreover, problem of multi-phase fluid.

# CURRENT STATUS

- Academic experiments (virtually all Consortia)

Propose and share demanding experiments

Got not so much successes in really working together

Maybe due to very different interests/concerns

or different level of progressions

# FUTURE

- Duplication is avoided *de facto* between A+E+H only remains U+C, ... (uncomfortable).
- sHow to conciliate stronger cooperation with limited subset of consortia, and weaker level of cooperation with wider community ?