Short list of (planed) activities linked with ALARO-0 developments in 2007

9 July 2007

*** *Scheme developments* ***

Governing equations: extension to the compressible case (NH)
- optional projection of heat source on temperature and pressure changes
- full kinetic energy budget
* work is ongoing in Prague Petra Smolikova

Gravity wave drag parametrization
- without envelope of orography there are some problems (perhaps linked to cases with low stability where nothing substitutes for the blocking effect of the envelope)
* work is ongoing in Prague Tomas Kral

Pseudo-prognostic TKE-scheme
- optimization of code
* Filip Vana
- stability test
* Martina Tudor
- new mixing length formulation (BL89)
* Filip Vana
- the space-varying nu (NUPTKE).
* Jure Cedilnik
- an 'analytical only' CBR interpretation within p-TKE
* Ivan Bastak 4w LACE stay in Prague (June) and continues at home

Cloudiness: going towards unification of the different computation, while remaining pragmatic
* Joao Rio 6w stay in Prague (18.3.-4.5.) ALADIN flat rate inside LACE budget, continues at home

Microphysics
- comparison with other microphysics packages (ARPEGE)
- further validation

* Dunja Drvar - work at home (also her master theme)
* Radmila Brožkova, Jean-Francois Geleyn - bug connected with snow precipitation patches in summer

3MT: validation and tuning of the corresponding L3MT-switch part (in the same manner as for the already done validation of ALARO-0 minus 3MT)
internal validation
- find assembling bugs (probably solved)
- sensitivity to mid-troposphere humidity
- cold air showers
- drizzle
- diurnal cycle

* Luc Gerard, Radmila Brožkova, ...
* Luc Gerard - 1w stay in Prague (25.6.-29.6.) - too little ratio of convective precipitation to convective

condensation
* Doina Banciu - 6w LACE stay in Prague (mid-Aug till end-Sept)
* Ligia Amorim - 2w stay in Ljubljana (last two weeks in Sept) ALADIN flat rate

** Medium priority, not started yet, topics not linked to person(s) **

Governing equations: extension to the compressible case (NH)
- full kinetic energy budget

Pseudo-prognostic TKE-scheme
- study impact of current shallow convection (Geleyn, 1987);
extend vertical diffusion to ql/qi within the LDIFCONS option

Radiation
- modularisation of the code
- improvement of gaseous transmission functions
- work in the direction of 'new' intermittency
- better aerosol model
- better intermediate price solution for the Voigt extension
- improving the 'multi-cloud' aspect of the so-called 'cloud-band-model'

3MT:
- extension to dry and to shallow convection in the longer term

*** *Testing, verification* ***

centers are asked to test/validate ALARO-0 version (al29t2, al32t1)
- double suite
- case studies

- check CPU and memory consumption
- check stability of the code
- subjective and objective verification
- comparison with operational ALADIN model
- sensitivity to initial state of new prog. variables
- comparison of precipitation with INCA analysis (March2007, June,July2006)
  (Christoph Wittmann, Iwona Lelatko)

* teams form At, Be, Cz, Hr, Ma, Po, Ro, Si, Sk

DDH
inside ALARO-0 icluding new fluxes - is nearly working
Tomislav Kovačić - 4w (LACE) stay in Prague (21.5.-15.6.)

*** *Open issues* ***

depending on the situation at each projects and their priorities,
more discussion needed before decisions about links to ALARO-0.

SURFEX
Rafiq Hamdi stays in Toulouse and Prague are foreseen
(mid October to end November)