

ALARO10

Status & Plans
G. Hello CNRM

Status & Plans of ALARO10

- Why ALARO ?
- The workplan
- What has been done
- Foreseen troubles

Why ALARO ?

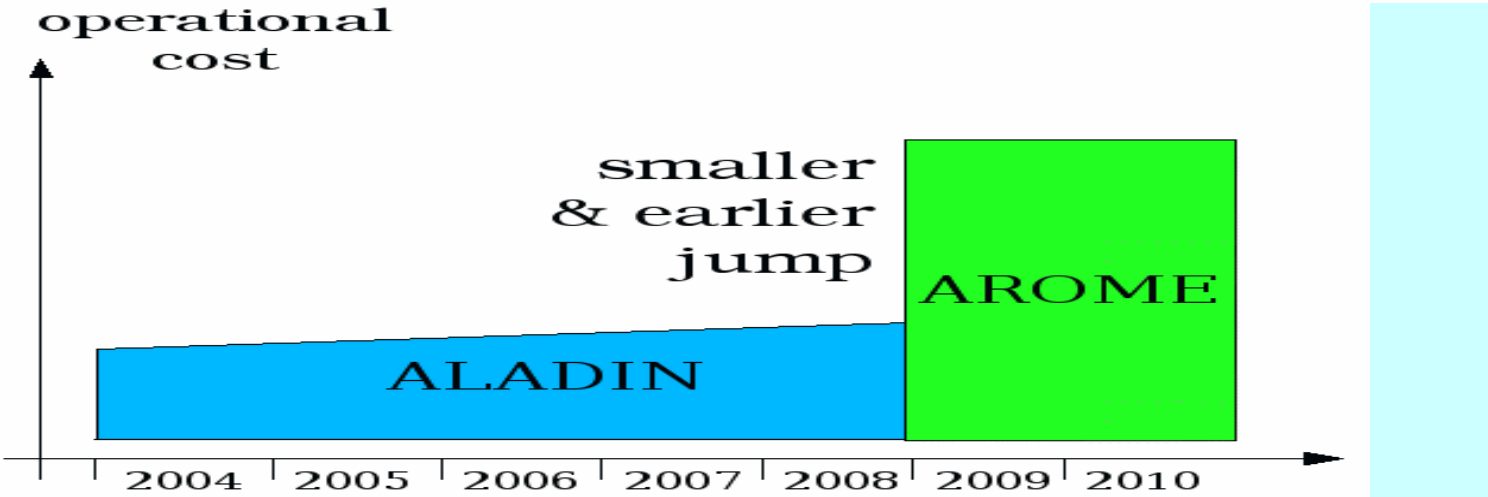
A political choice for the medium term ...

- Process started in Prague April 2003 (=> ALADIN-2 =AROME Limited Area Decentralized International Network)
- A choice between 3 different paths
- Prague feb 2004 → a 3rd model for an intermediate step

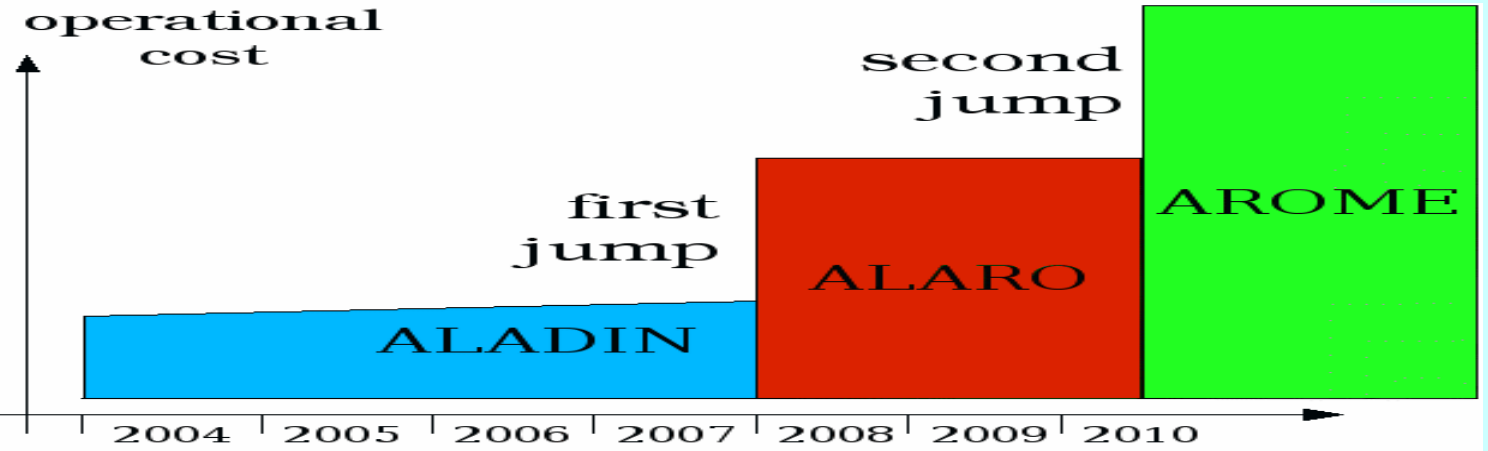
From F. Bouttier AAA meeting



Effort
on
Aladin



on
Arome



on
Alaro

Why ALARO ?

... leading to a scientific challenge

- To show the positive impact of a detailed physics at the regional scale
- To limit the unavoidable extra cost to reasonable values
- To transform a « research-oriented » physics on a « oper-oriented » one

Main constraints

- ▶ Reasonable cost
- ▶ Max compatibility with AROME
- ▶ Schedule (before AROME .. It is an intermediate step)

ALARO10 WorkPlan-04

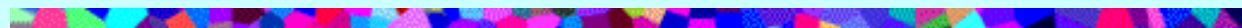
A: build & evaluate the prototype

ref	name	who	\cap With sub-projects
a1	Building the prototype	G H, TK, arome people	Arome
a2	Evaluation & test	G H, T K, ?	\emptyset
b1	Intermittent radiation scheme	JFG, N pristov, GH, YB, MD	Alad1, alaro-5
b2	Sub-grid scale orography	JFG, BC, Fby, FW, JC, RM	Alad1, alaro-5
b3	Triggering of convection	TH, MB, JMP, TK, LG	Alad1, alaro-5
b4	Adaptation to long time step	GH, DB, JFG, LG, EB	
b5	Performance of the proto in the presence of shallow conv & stratiform clouds	?	

B: optimization of the parametrizations

What has been done ? **A part**

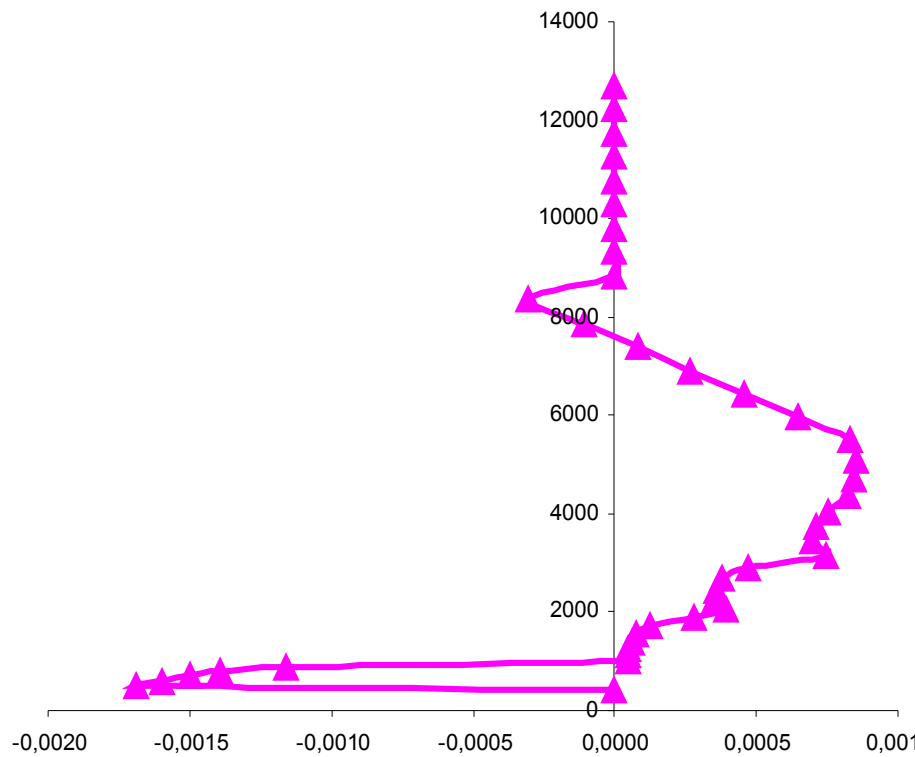
- Building ALARO10 prototype (a1 of WP04) with the help of Tomislav Kovacic and AROME people (YS, SM & gmme team)
 - ▶ Add the parametrization of the convection (deep & shallow) to the AROME interface
 - ▶ Test in 1D (GH)
 - ▶ Test in 3D academic (TK)
 - ▶ Test in 3D real case (GH & TK in progress)



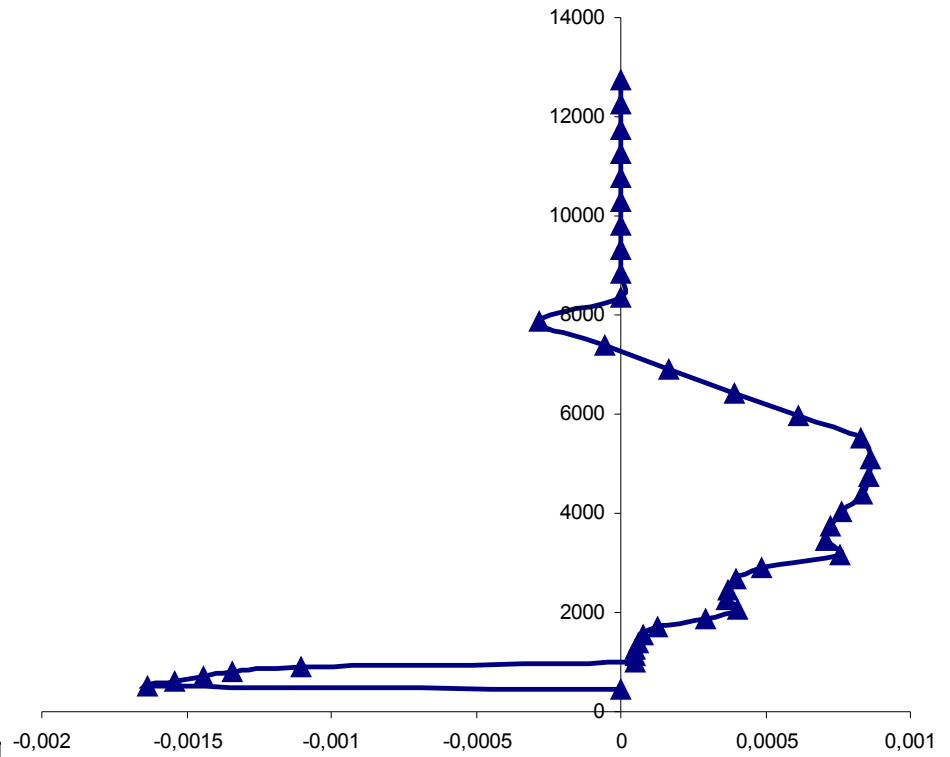
Méso-NH

ALARO

Tent (T) mnh

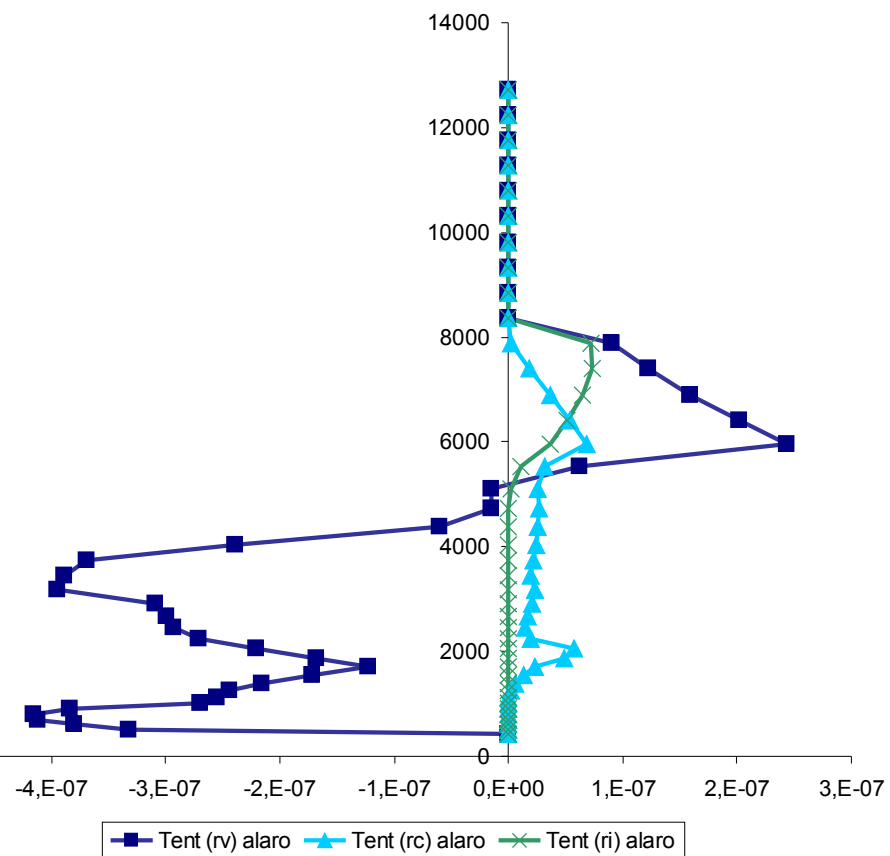
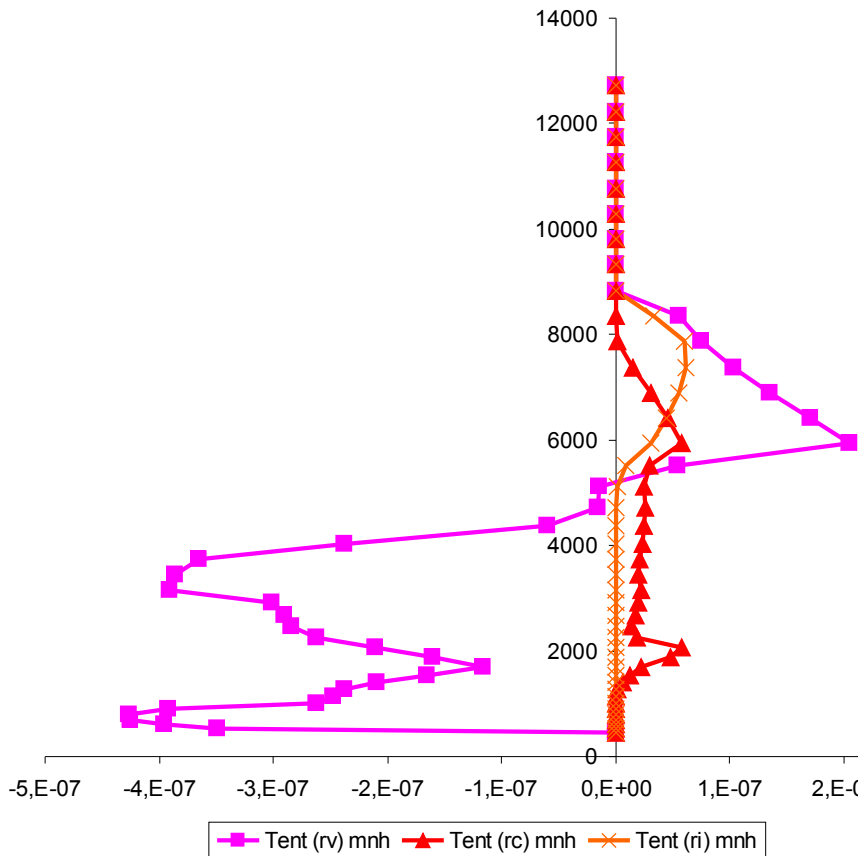


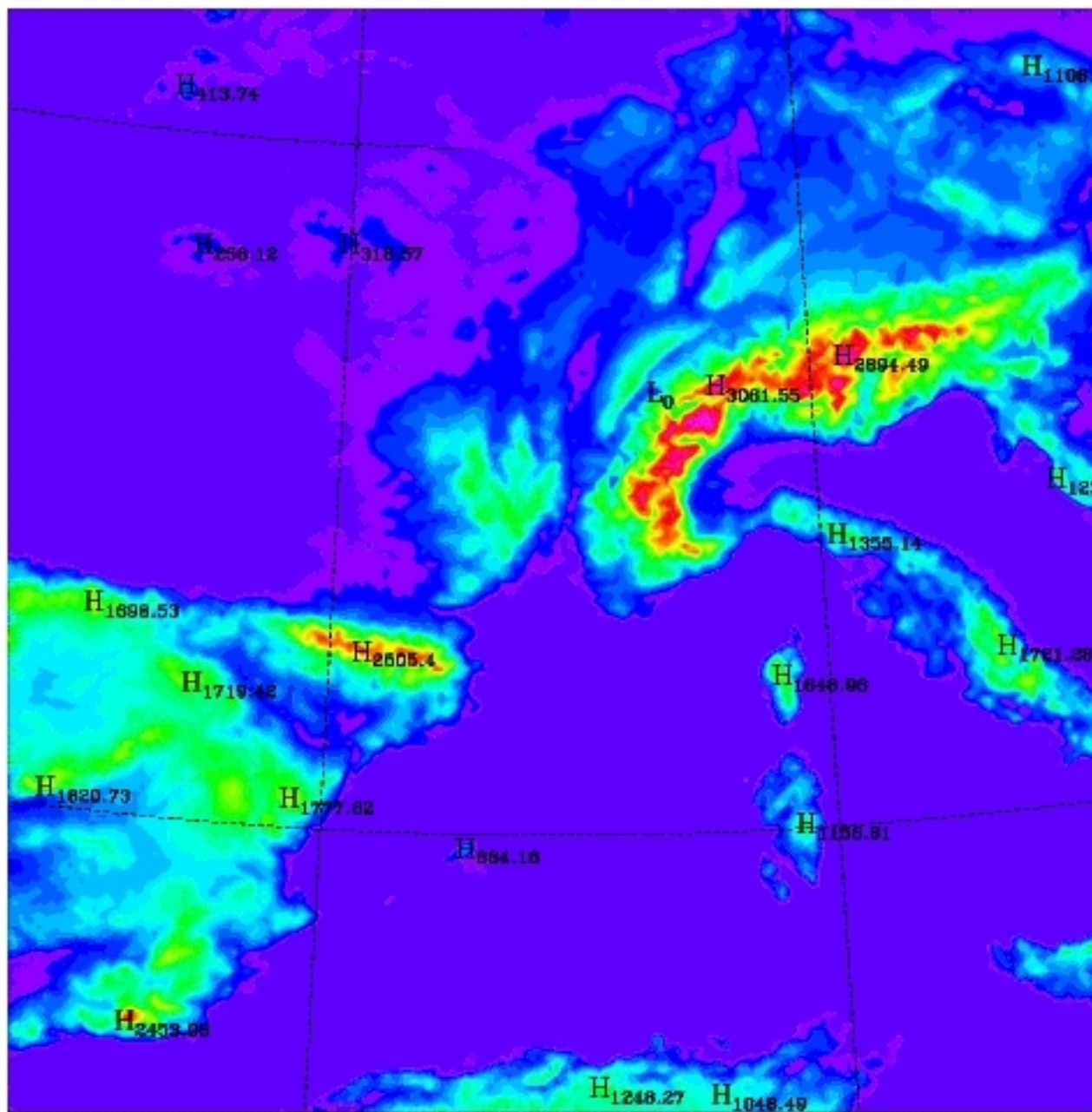
Tent (T) alaro



Méso-NH

ALARO



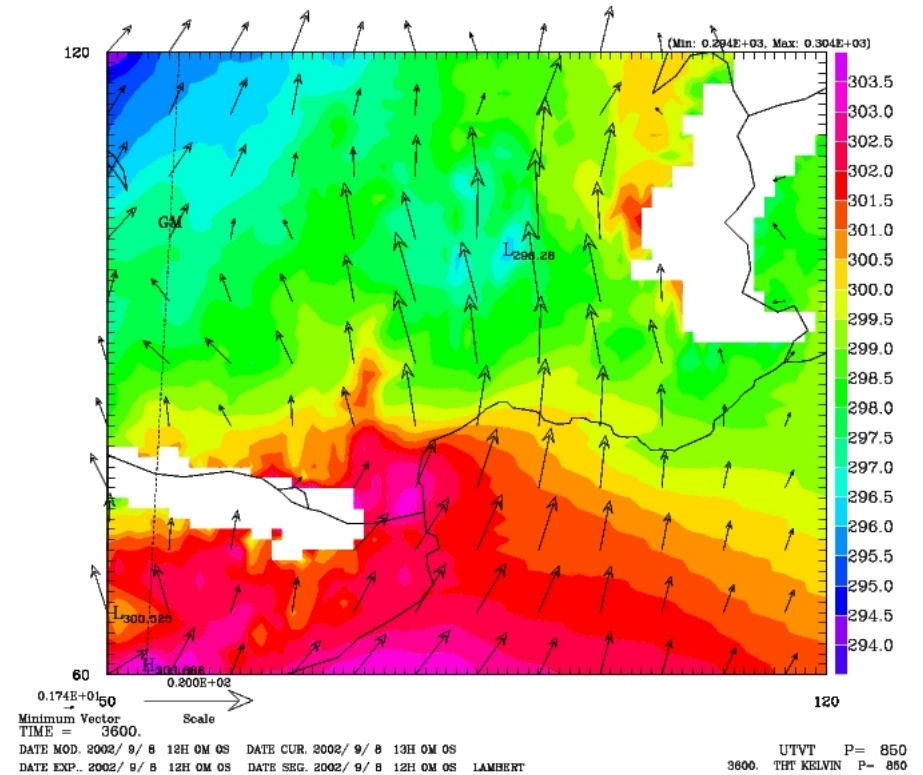
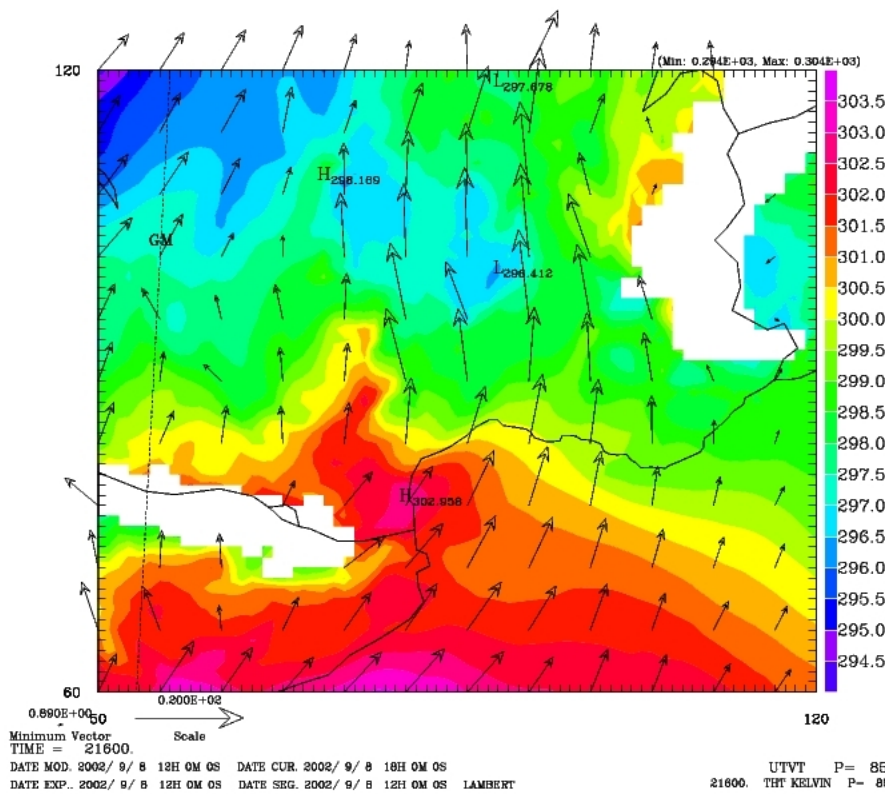


The Gard case: 2002-09-08

3D-Prototype

Méso-NH

ALARO

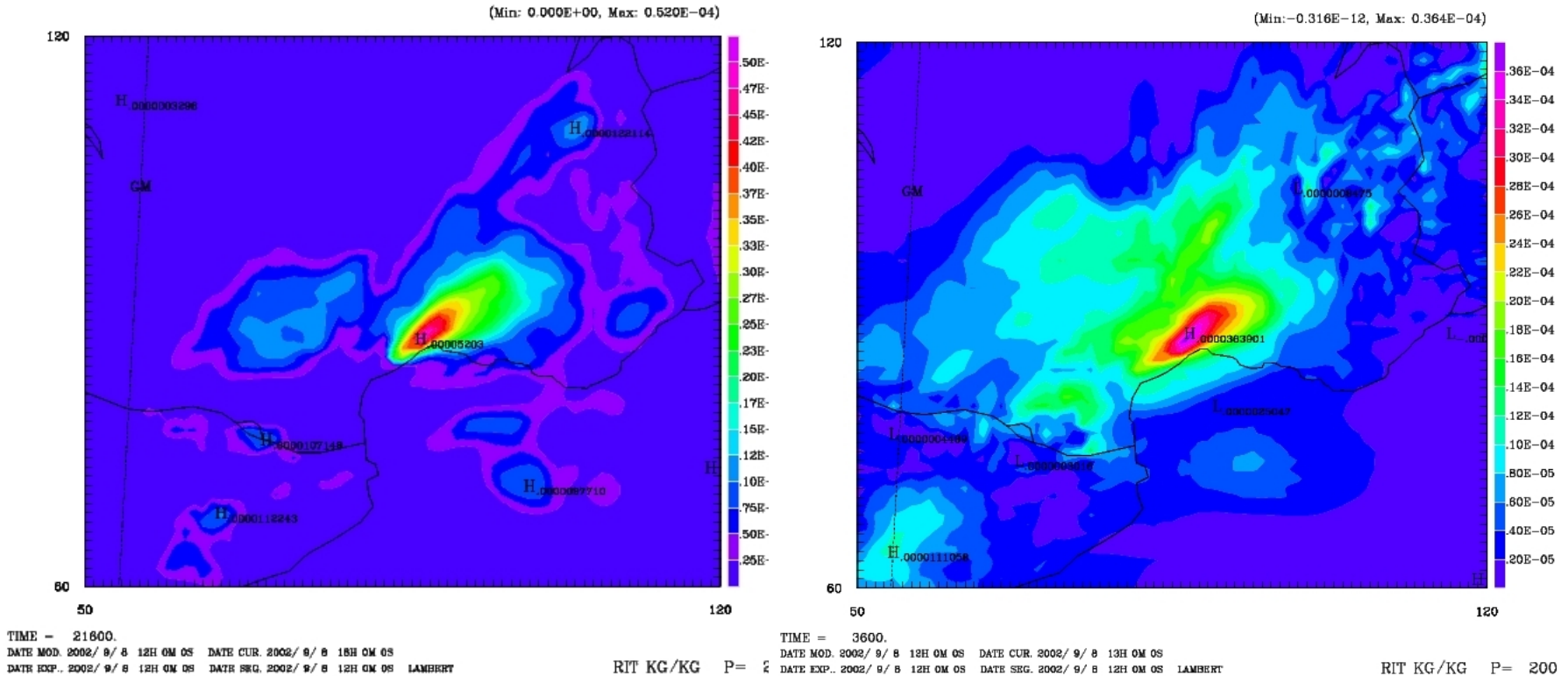


Wind and theta at 850 hPa

3D-Prototype

Méso-NH

ALARO

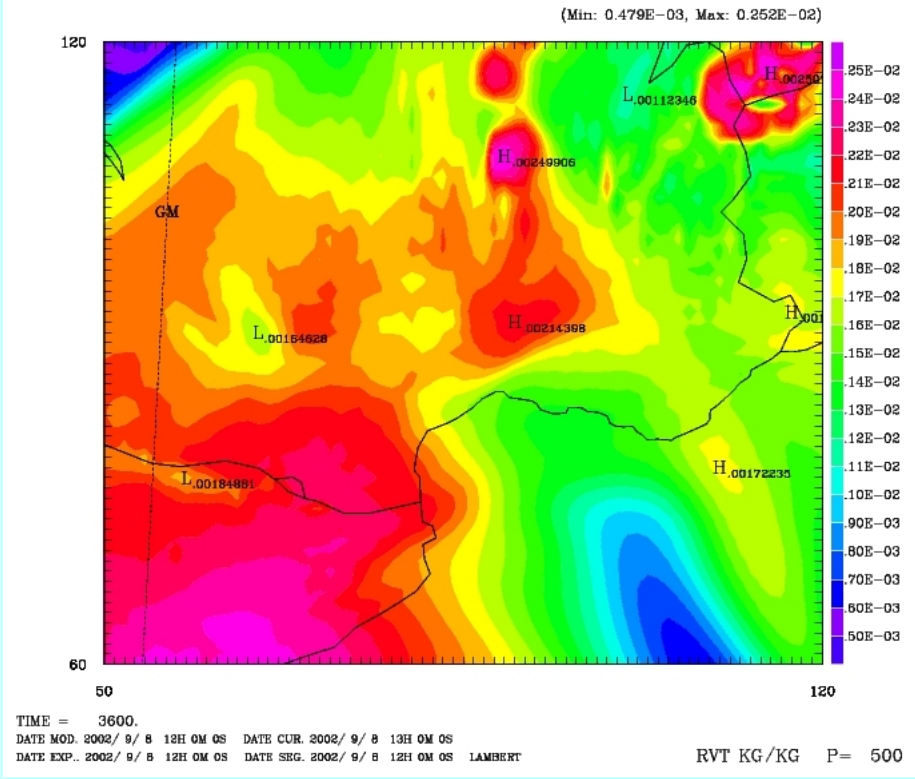
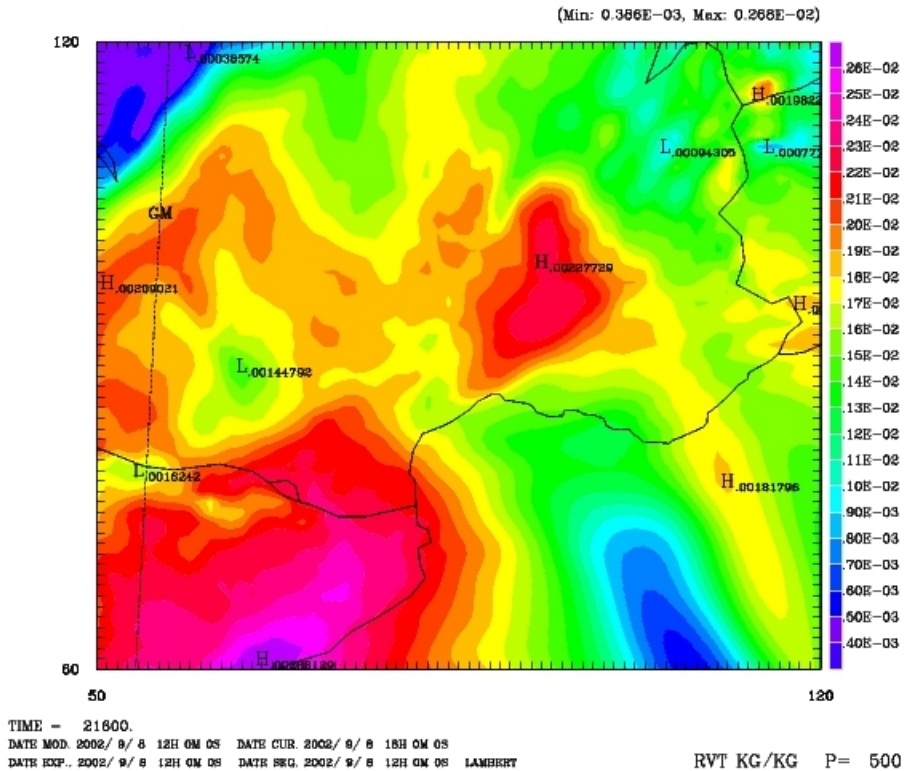


Ri at 200 hPa (ice clouds)

3D-Prototype

Méso-NH

ALARO



Rv at 500 hPa

3D-Prototype

What has been done ? **B part**

- Optimization of the parametrizations (b of WP04)

- ▶ Radiation scheme (JFG, NP,MD, GH & YB)

See session E Wednesday

- ▶ GWD (many people not a specific ALARO10 work)

See session E Wednesday

Foreseen troubles

- Manpower: a balance to find between AROME « attraction » and ALARO « duty » + avoid dispersion & duplication (ALARO10-ALARO5)
- Many work and interesting scientific questions to have a cost effective version which does better than Aladin ...and not much time

Conclusion

Contributors welcome !!!

Open questions & ? → do not
forget the *A-A prototypes WG*
this afternoon