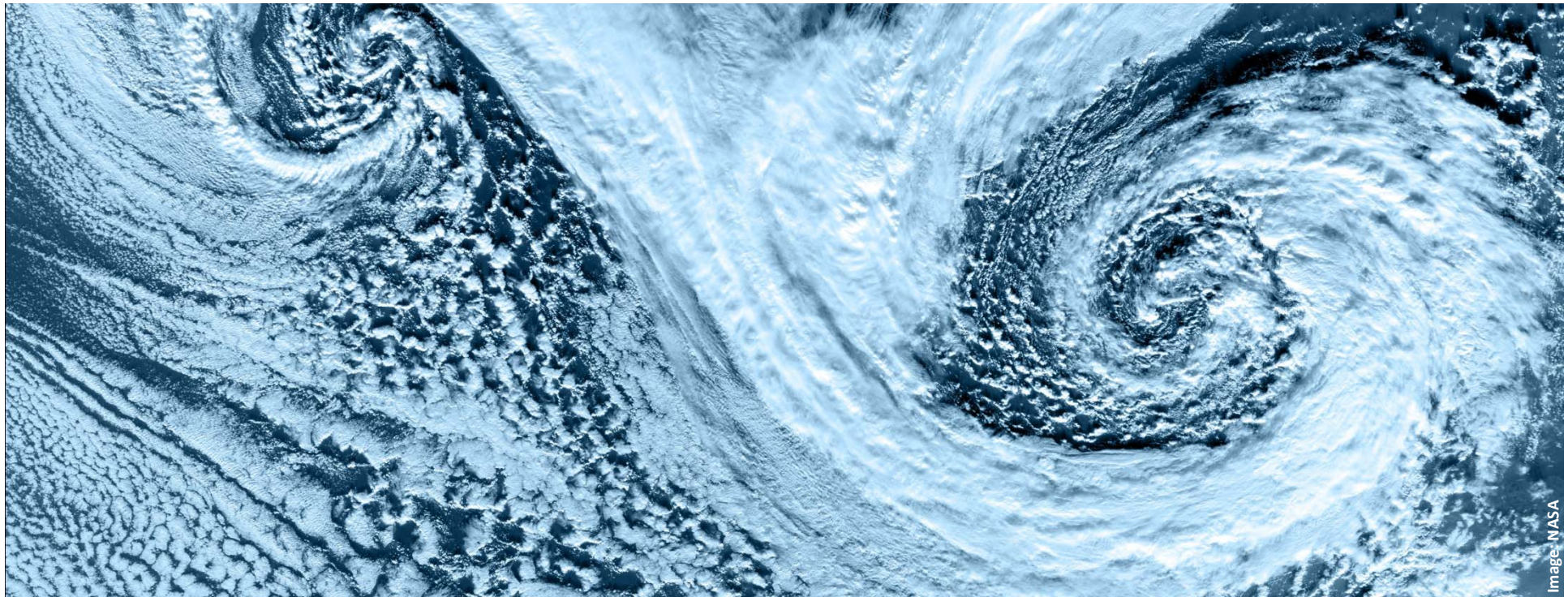


Global climate modelling

Grazia Frontoso, grazia.frontoso@env.ethz.ch



C2SM global climate modelling activities: focus on **ECHAM-HAMMOZ**

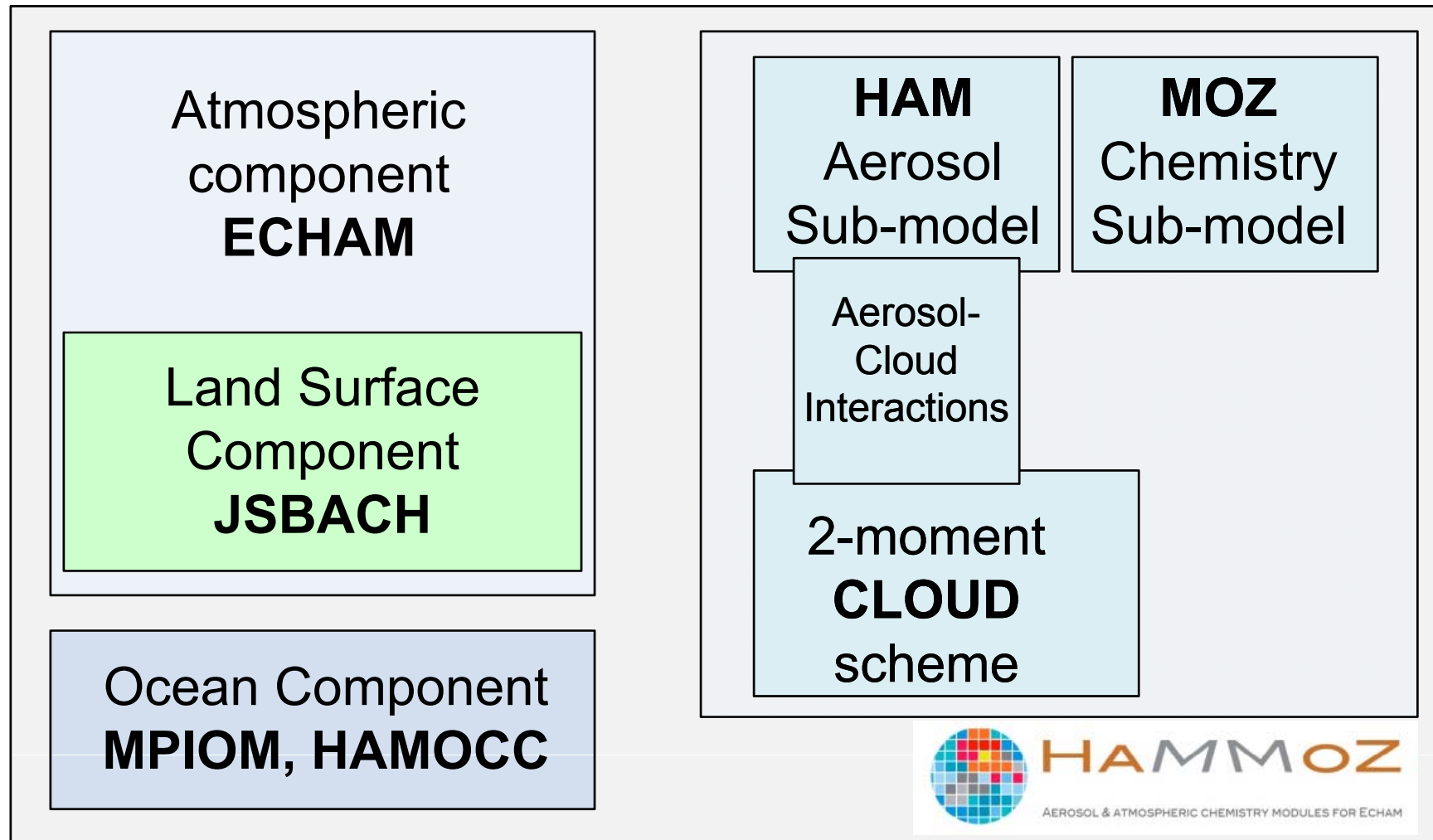


HAMMOZ

AEROSOL & ATMOSPHERIC CHEMISTRY MODULES FOR ECHAM

<https://redmine.hammoz.ethz.ch/projects/hammoz>

The ECHAM-HAMMOZ model



The ECHAM-HAMMOZ „history“

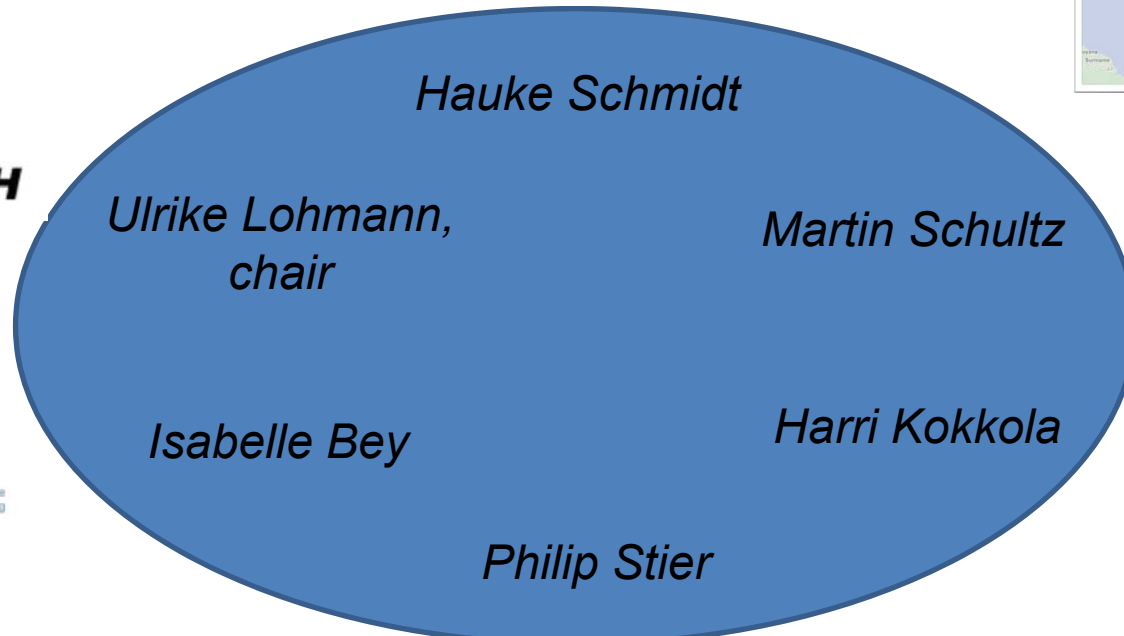
- ECHAM
 - Developed and hosted by MPI-M (Hamburg)
 - ECHAM6 released in February 2012
 - Available through iaceth svn

- ECHAM-HAMMOZ
 - Developed by several Institutes and hosted by C2SM/ETHZ since 2008
 - ECHAM6-HAMMOZ released in October 2012
 - For information about how to get the model, etc...:

https://redmine.hammoz.ethz.ch/projects/hammoz/wiki/Hitchhikers_guide_to_hammoz

The HAMMOZ consortium and community

established in fall 2008



IAC**ETH**



Roadmap

October 2012

June 2013

end 2013

echam6.1-ham2.1-mo0.8

echam6.1-ham2.2-mo0.9

echam6.2-ham2.3-mo1.0

Input data: v0001

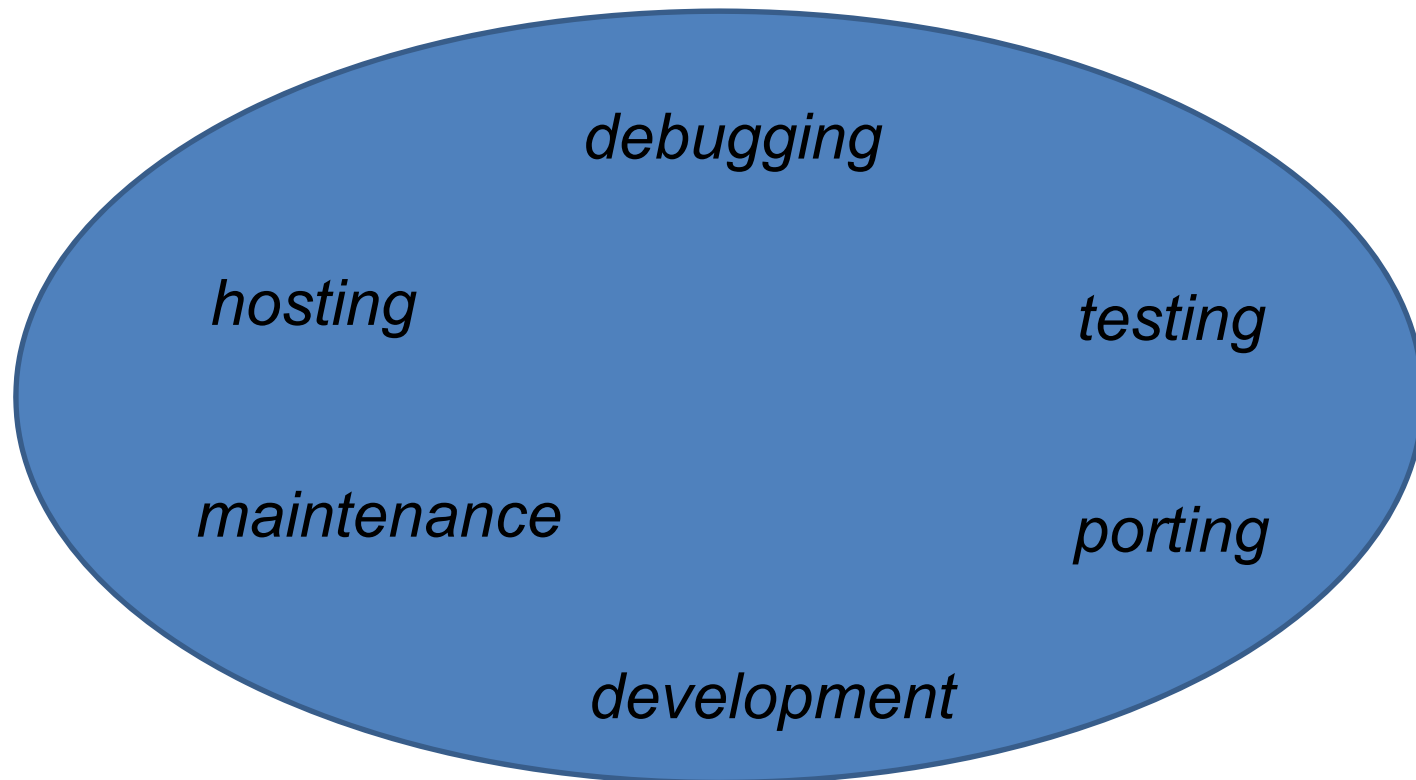
Input data: v0002

RELEASE

- In-cloud size dep scavenging (Betty Croft)
- Orographic cirrus cloud (Hanna Joos)
- Interactive LAI
- etc...

- Aerosol processing (Corinna Hoose)
- Abdul Razzak & Ghan activation scheme (Philip Stier)
- First MOZ release
- etc...

The role of C2SM/ETH in the consortium

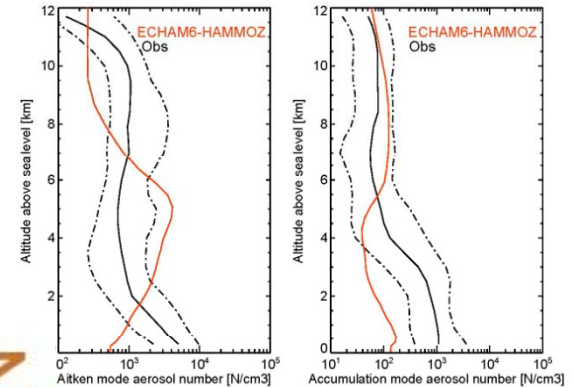
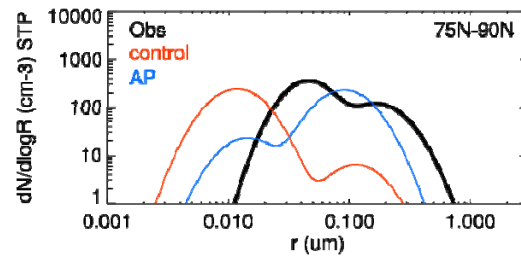
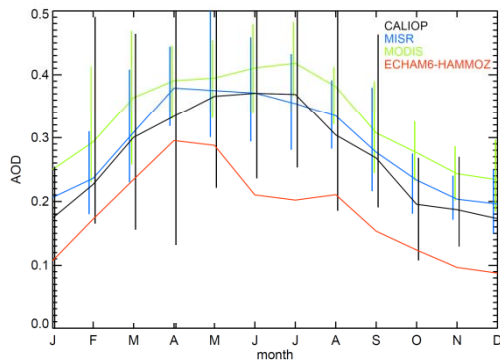


Doris
Grazia
Isabelle
Sylvaine
Ulrike
+ users

Main C2SM activities

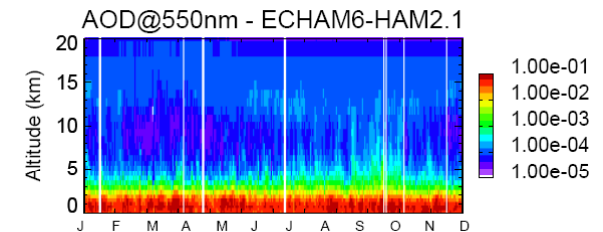
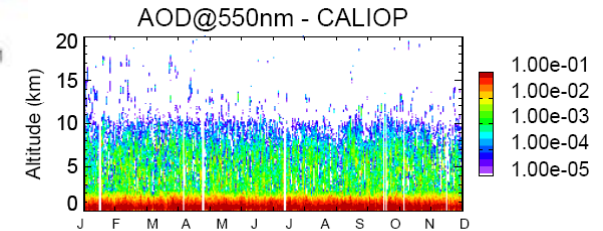
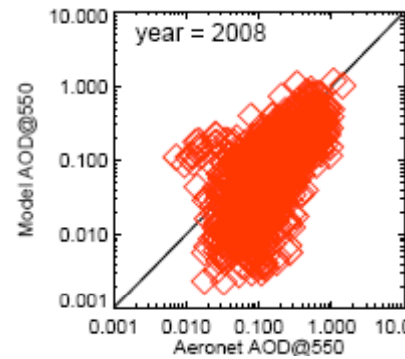
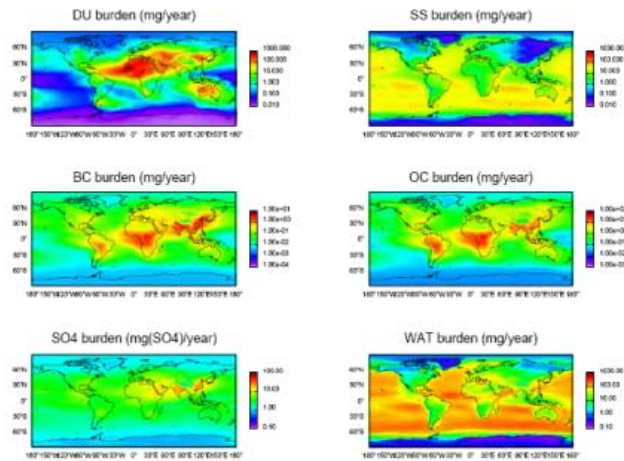
- Debugging, testing and refinement of the model
- Harmonization of new developments
- Preparation of input data
- Performing reference simulations
- Evaluation of the model release against previous model versions and available observations
- Porting the code on new architectures
- Implementation of Earth system modelling @CSCS (since May 2013)
- Community activities; user support

Development of p-proc & plotting tools



HAMMOZ

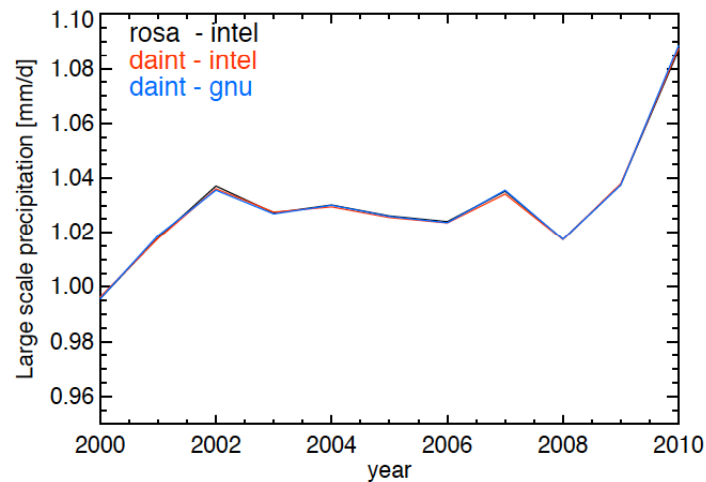
AEROSOL & ATMOSPHERIC CHEMISTRY MODULES FOR ECHAM



Porting HAMMOZ on Cray XC30 (Piz Daint)

Scientific testing

10-year simulation ECHAM6-HAM2.1 @T63L31



Performance analysis

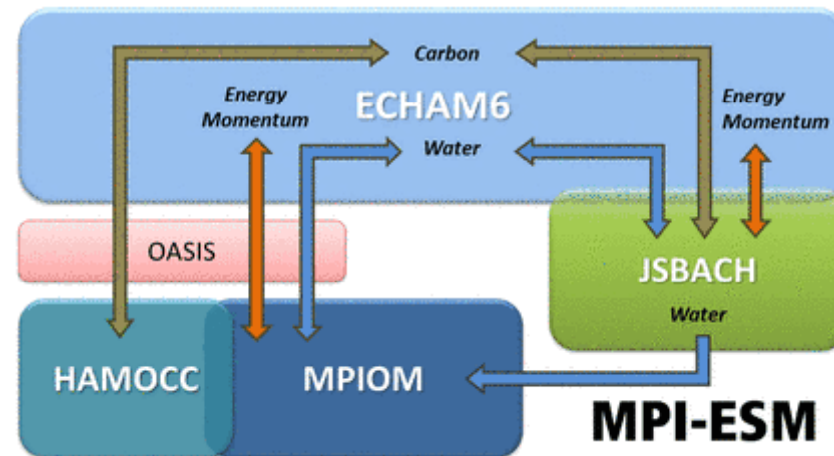
1 month simulation ECHAM6-HAM2.1 @T63L31

# CPUs	Wallclock (h)	
	rosa	daint
64	1.081	0.404
128	0.561	0.221
192	0.428	0.155
256	0.350	0.133

*Performance analysis
on Piz Daint
available in .pdf*

Implementation of Earth system modelling at CSCS *since May 2013*

- CHIRP2 project - Investigation of the influence of aerosols on the global hydrological cycle
(Dr. Ana Sesartic, May 2012-May 2013)
- Takeover: compile, run, post-processing, adding aerosol, etc...



+ HAMMOZ

*since
Jan 2013*

Community activities: ECHAM meetings

- Aim: to gather the ECHAM user community
- Where & When: @CHN, every 3months
- 1st meeting (23rd Jan 2013): “Tutorial on cloud microphysics” by Prof. Lohmann
- 2nd meeting (6th May 2013): “Who is doing what” by all the ECHAM users
- To be informed: send me an email
(IAC_ECHAM mailing list)

User support

Microsoft Outlook Web App

sign out | Frontoso Grazia

Find Someone Options ?

Search Entire Mailbox

Conversations by Date

Today

- ✓ C2SM Working Group on ...
Bey Isabelle 12:34 PM

Yesterday

- Slides for the C2SM Comm...
Roches Anne Thu 5:44 PM
- heterogeneous chemistry
Luca Pozzoli Thu 3:38 PM

Tuesday

- python scripts for interpolat...
"Schröder, Sabine" Tue 11:19 AM

Monday

- interpolation of a rather big ...
Folini Doris Sylvia Mon 10:27 AM

Three Weeks Ago

- [HAMMOZ - Support #257] ...
admin-redmine-hammoz@en... 5/17/2013
- lat_2 for ef_isoprene
"Schröder, Sabine" 5/16/2013

Dear all,

The time has come to ...
some of you will be aw...
try anyhow, as this meeting...
following poll:

<http://www.doodle.com/a68kamhgfyfx7K>

... up meeting, we shall give an opportunity
... ate the possibility for synergies etc.
... would be interested in given a shot
... group and a possible title for it.

Hi Grazia,
I need to compute the aerosol lifetime....

Hi Grazia,
do you have a script to compute the size distribution from ECHAM-HAMMOZ runs?

Hi Grazia,
my code just crashes with the following error...

Come and visit me 😊

CHN - M15.1

