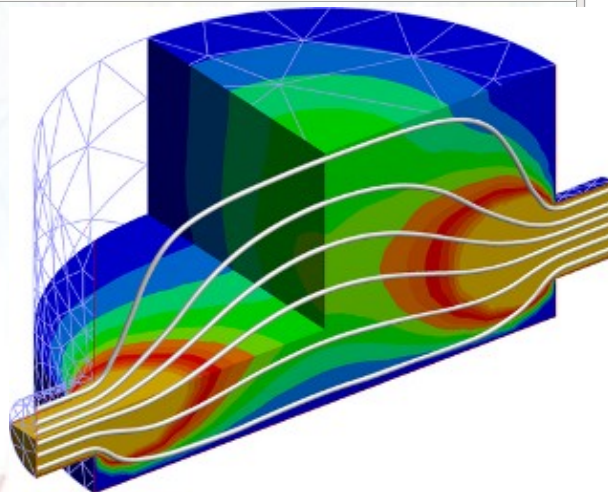
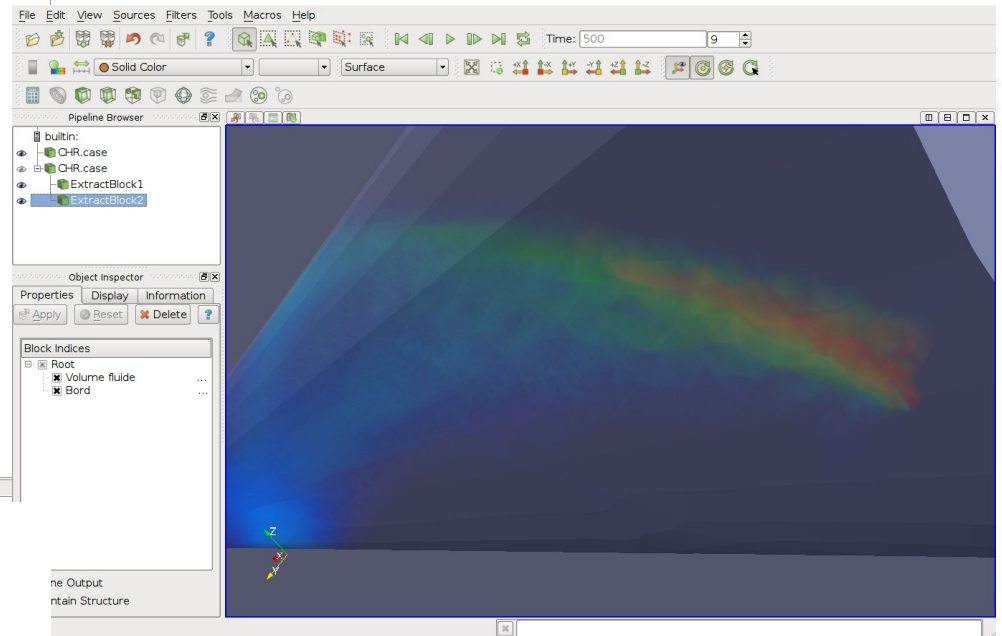
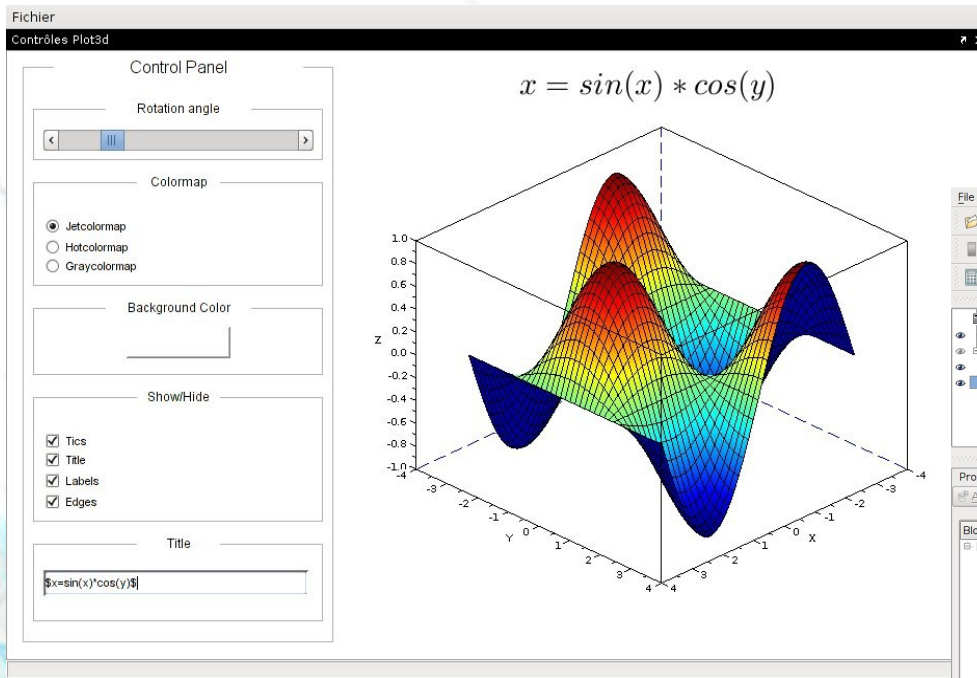


Presentation of Debian Science

$$\begin{pmatrix} 23 & 42 \\ 42 & 32 \end{pmatrix} + \begin{pmatrix} 0.3707945 & 0.1903269 \\ 0.2116117 & 0.5607954 \end{pmatrix}$$



Who I am ?

- Core developer & R&D project manager of Scilab (daily job)
- Debian Developer
- Involved in Debian mainly in Science and Java aspects
- sylvestre.ledru@scilab.org / sylvestre@debian.org

What is Debian Science ?

What is Debian Science ?

- A team

<https://alioth.debian.org/projects/debian-science/>

<http://qa.debian.org/developer.php?login=debian-science-maintainers@lists.alioth.debian.org>

With the debian-science@lists.debian.org mailing list

What is Debian Science ?

Also series of other Science related teams:

- Debian Med. Focus on medical practice, imaging and bioinformatics.

~ 130 packages



Packages overview for Debian Med Packaging Team ◀

Display configuration: (click to expand)

Help (click to expand)

General information (click to collapse)

Bugs: [open](#) - [RC](#) - [all](#) - [submitted](#) - [WNPP](#) - [statistics](#)

Reports: [Build](#) - [Lintian](#) - [Debtags](#) - [DEHS](#) - [Piuparts](#)

main (129)

Source Name	Bugs					Version				
	All	RC	I&N	M&W	F&P	Oldstable	Stable	Testing	Unstable	Exp
adun.app *[DM] PTS Pool	-	-	-	-	-	-	0.8.2-1		0.81-3	-
aeskulap *[DM]							0.2.2h1.2		0.2.2h1.6	

What is Debian Science ?

- Debichem. Focus on chemical applications.
~ 30 packages

Packages overview for Debichem Team <de

[Display configuration:](#) (click to expand)

[Help:](#) (click to expand)

[General information:](#) (click to collapse)

Bugs: [open](#) - [RC](#) - [all](#) - [submitted](#) - [WNPP](#) - [statistics](#)

Reports: [Build](#) - [Lintian](#) - [Debtags](#) - [DEHS](#) - [Piuparts](#)

main (31)

Source Name	Bugs					Version					Ubu
	All	RC	I&N	M&W	F&P	Oldstable	Stable	Testing	Unstable	Exp	
apbs* [DM] PTS Pool	-	-	-	-	-	-	1.0.0-2	1.2.1b-1	-	-	1.2.1b-1 1 bu

What is Debian Science ?

- Pkg-scicomp. Focus on numerical computation applications and libraries.
~ 30 packages

Packages overview for Debian Scientific Computing Team

Display configuration: (click to expand)

Help (click to expand)

General information (click to collapse)

Bugs: [open](#) - [RC](#) - [all](#) - [submitted](#) - [WNPP](#) - [statistics](#)

Reports: [Build](#) - [Lintian](#) - [Debtags](#) - [DEHS](#) - [Piuparts](#)

main (30)

Source Name	Bugs					Version				
	All	RC	I&N	M&W	F&P	Oldstable	Stable	Testing	Unstable	Exp
abinit *[DM] PTS Pool	3	-	-	3	-	-	5.3.4.dfsg-3			-

Goals of the Debian Science team

Goals of the Debian Science team

- Package the best software and libraries in each fields (more and more free software are reaching quality of proprietary software)
- Create a complete science oriented distribution in math, physics, simulation, etc.
- Package some glues for software to work together (ex: Salome \Leftrightarrow Code Aster, Scilab \Leftrightarrow Scipy, getfem++ \Leftrightarrow Python/Scilab, etc)

Goals of the Debian Science team

- Connect people
- Help upstream to understand distributions, accept patches upstream, etc.

History of Debian Science team

History of Debian Science team

- Idea supported initially by Andreas Tille
- And started through Debian Blends (<http://blends.alioth.debian.org/>)

Summary

Mathematics
Debian Science Mathematics packages
This metapackage will install Debian Science packages related to Mathematics. You might also be interested in the field::mathematics debtag and, depending on your focus, in the education-mathematics metapackage.

The list to the right includes various software projects which are of some interest to the Debian Science Project. Currently, only a few of them are available as Debian packages. It is our goal, however, to include all software in Debian Science which can sensibly add to a high quality Debian Pure Blend. For a better overview of the

Debian Science Mathematics packages

Official Debian packages with high relevance

Axiom

A general purpose computer algebra system: main binary and modules

Maintainer: Camm Maguire

Popcon: 45 users (73)

Versions and Architecture

Debtags

Axiom is useful for research and development of mathematical algorithms. It defines a strongly typed, mathematically correct type hierarchy. It has a programming language built-in compiler.

Axiom has been in development since 1973 and was sold as a commercial product. It has been released as free software.

Efforts are underway to extend this software to (a) develop a better user interface (b) make it useful as a teaching tool (c) develop an algebra server protocol (d) integrate additional mathematics (e) rebuild the algebra in a literate programming style (f) integrate interactive programming (g) develop an Axiom Journal with refereed submissions.

This package contains the main program binary and all precompiled algebraic autoloadable modules.

The package is enhanced by the following packages: [texmacs](#)

History of Debian Science team

- Blends provide a straightforward access to the pool of Science packages
- Separated and classified into different metapackages:
science-astronomy, science-mathematics,
science-mathematics-dev, science-viewing, etc

History of Debian Science team

Debian Science

- Creation of the Debian Science project on Alioth and the list debian-science-maintainers@lists.alioth.debian.org at beginning of 2008

History of Debian Science team

- Policy written in mid-2008 by Manuel Prinz and I
- Nothing really original (inspired by other team policies)



Some works completed

Some works completed

- MPI
- Linear algebra libraries
Adoption of the most common libs
update-alternatives on BLAS and LAPACK
implementations

=> These two subjects will be presented in a
next talk
- OpenCascade
- Paraview
- ...

Some works completed

Code Saturne

- General purpose computational fluid dynamics free
- Developed and used by EDF (french energy company)
- Strong interest of upstream for the packaging for quality and diffusion aspects and internal usages

Some works completed

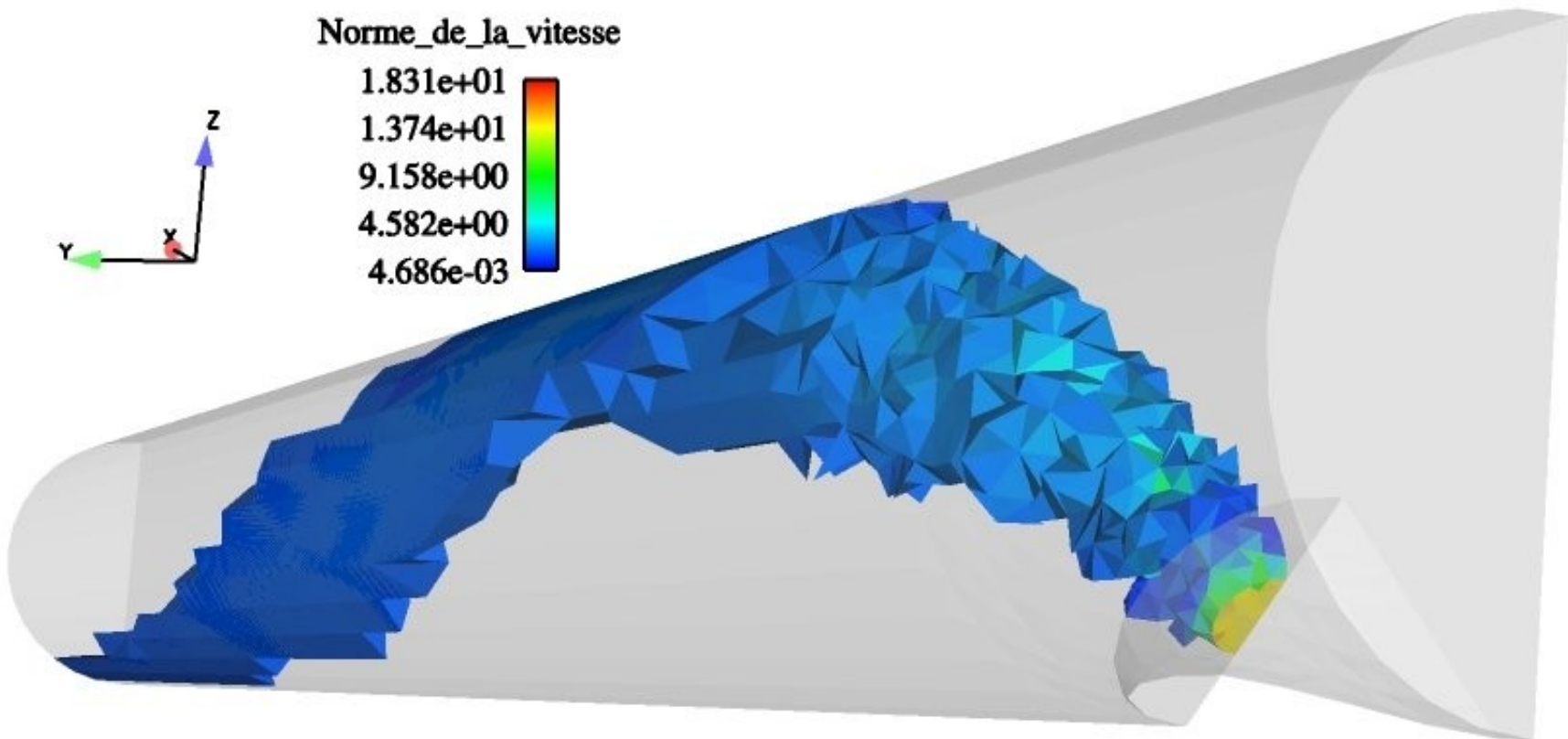
Code Saturne

- General purpose computational fluid dynamics free
- Developed and used by EDF (french energy company)
- Strong interest of upstream for the packaging for quality and diffusion aspects and internal usages

Some works completed

Code Saturne

- Pipe with CO₂ and helium injections



Some works completed

Salome

- Pre/Post processing platform
- Packaged by Adam Powell IV and Andre Espaze from Logilab
- First attempt in 2008 but lack of upstream response

Some works completed

- Collaboration with upstream done through a french cooperation project (OpenHPC)
- ~ 50 patches with future upstream inclusions for most of them
- This time, lot of interests from upstream

On going work

Pkg-scicomp

- Admin of pkg-scicomp no longer have the time to manage it.
 - Very similar in their policies and objectives.
 - Some overlaps and confusions for potential contributors and users.
- => Merge pkg-scicomp into Debian Science

On going work

Status of this merge

- Was: 51 packages
- Now: 33 packages (with some packages already migrated but not uploaded with the new information).
- Slow process.

How you can help ?

- Fix RCs (RC bug fixing + Team upload = Fun)
- Refresh the Wiki Debian Science pages
- Help on finishing the pkg-scicomp / Debian Science merge
- Help on some migrations (MPI)
- Help on the Debian Blends Science
- Screenshotting

Open discussions

- Usage of the mailing list ?

debian-science@lists.scilab.org for general questions about science software

debian-science-maintainers@lists.alioth.debian.org for packaging question

- Creation of an hub for science related projects (Debichem, Debian Med, Debian Science, etc) ?