[sage-release] Sage 4.6.1 released

Jeroen Demeyer <jdemeyer@cage.ugent.be>   **Fri, Jan 14, 2011 at 1:35 PM**
Reply-To: sage-release@googlegroups.com
To: sage-announce@googlegroups.com, sage-release@googlegroups.com

Sage 4.6.1 was released on 13 January 2011. It is available at

  http://www.sagemath.org/download.html

* About Sage (http://www.sagemath.org)

Sage is developed by volunteers and combines over 90 open source packages.
It is available for download from www.sagemath.org and its mirrors in
source or binary form. If you have any questions and/or problems,
please report them to any of these Google groups:

 * sage-support: http://groups.google.com/group/sage-support
 * sage-devel: http://groups.google.com/group/sage-devel

You can also drop by in #sage-devel on freenode. Please report build and
doctest results to the Google group

 * sage-release: http://groups.google.com/group/sage-release

The following 80 people contributed to this release. Of those, 14 made
their first contribution to Sage:

 * Alexandre Blondin Massé
 * Alex Ghitza
 * Aly Deines
 * André Apitzsch [first contribution]
 * Andrey Novoseltsev
 * Anne Schilling
 * Benjamin Jones [first contribution]
 * Burcin Erocal
 * Christian Stump
 * Chris Wuthrich
 * Damek Davis [first contribution]
 * Dan Drake
 * Daniel Bump
 * David Joyner
 * David Kirkby
 * David Loeffler
 * David Roe
 * Didier Deshommes
 * Dmitrii Pasechnik
 * Drew Sutherland [first contribution]
 * Emmanuel Thome [first contribution]
 * Eviatar Bach [first contribution]
 * Felix Lawrence
 * Fidel Barrera-Cruz
 * Flavia Stan
 * Florent Hivert
 * Francis Clarke

* François Bissey
* Franco Saliola
* Fredrik Johansson
* Gagan Sekhon [first contribution]
* Geoffrey Ehrman [first contribution]
* Harald Schilly
* Ivan Andrus
* Jason Grout
* Jean-Pierre Flori
* Jeroen Demeyer
* Johan Sebastian Rosenkilde Nielsen
* John Cremona
* John Palmieri
* John Thurber [first contribution]
* Joris Vankerschaver
* Karl-Dieter Crisman
* Leif Leonhardy
* Leonardo Sampaio
* Luis Felipe Tabera Alonso
* Maarten Derickx
* Maite Aranes
* Mariah Lenox
* Martin Albrecht
* Martin Raum
* Mathieu Guay-Paquet
* Mike Hansen
* Minh Van Nguyen
* Mitesh Patel
* Nathann Cohen
* Nicolas Borie
* Nicolas M. Thiéry
* Niles Johnson
* Oscar Gerardo Lazo Arjona
* Paul Zimmermann
* Rob Beezer
* Robert Bradshaw
* Robert Mařík
* Robert Miller
* Ross Kyprianou
* Ryan Grout
* Sébastien Labbé
* Simon Spicer [first contribution]
* Stefan Reiterer [first contribution]
* Stepan Starosta [first contribution]
* Thierry Monteil [first contribution]
* Tim Dumol
* Timo Jolivet [first contribution]
* Valentin Feray
* Vincent Delecroix
* Volker Braun
* Willem Jan Palenstijn
* William Stein
* Yann Laigle-Chapuy

* Release manager: Jeroen Demeyer.

* Doctesting coverage:

* Overall weighted coverage score: 84.4% (84.3% for 4.6)
* Total number of functions: 26816 (26592 for 4.6)

* We closed 160 tickets in this release. For details, see

Closed tickets:

#1052: implement more functionality for class groups of number fields [Reviewed by John Cremona]
#2608: Sequence(ZZ) should fail gracefully [Reviewed by Didier Deshommes]
#4839: update desolve_laplace like #4285 did for desolve [Reviewed by Robert Mařík]
#8292: improvements to eisenstein_series_qexp [Reviewed by Alex Ghitza]
#8656: Volker Braun: face_lattice does not seem to work for unbounded polyhedra [Reviewed by Andrey Novoseltsev]
#9426: Docbuilder ignores return code from subprocess.call() [Reviewed by Minh Van Nguyen]
#10191: Catch fatal Sphinx errors [Reviewed by Jeroen Demeyer]
#4154: setting defaults for show options [Reviewed by Andrey Novoseltsev]
#7971: Rob Beezer: Change all occurrences of "method" to "algorithm" in coding/code_bounds.py [Reviewed by Minh Van Nguyen]
#8898: Minh Van Nguyen, Jeroen Demeyer: some files in sage-4.4.{0,1} have dos line ending instead of a unix line ending [Reviewed by François Bissey]
#9617: Broken export of LP files.... [Reviewed by Nathann Cohen]
#4782: construction of some relative quadratic extensions is SERIOUSLY FRICKIN's FOO-bar'd [Reviewed by Robert Bradshaw]
#5006: the hg script installed by install_script() does not pass parameters correctly [Reviewed by Robert Bradshaw]
#8483: Multiplication faster than squaring? [Reviewed by Martin Albrecht]
#8088: sage library 4.3.1 failing to build on Open Solaris x64 [Reviewed by David Kirkby]
#10185: ECL in Sage will not build on Fedora 14, which will be released on 2nd November 2010 [Reviewed by David Kirkby]
#9842: groebner basis bug [Reviewed by Gagan Sekhon]
#10557: local/bin/gphelp has hardcoded path that is not reset when sage is moved [Reviewed by Jeroen Demeyer]
#10558: ModularSymbols got much slower since sage 4.3 [Reviewed by Maarten Derickx]

Merged in sage-4.6.1.alpha0:

#5492: Jeroen Demeyer: implement sage -bt [Reviewed by Alex Ghitza]
#7953: Willem Jan Palenstijn: Curve printing only shows first defining equation [Reviewed by Alex Ghitza]
#8529: Ryan Grout: default colors for plot and implicit_plot are not consistent [Reviewed by Jason Grout, Karl-Dieter Crisman]
#8589: Valentin Feray: New feature : Hopf algebra structure on group algebras [Reviewed by Nicolas M. Thiéry]
#9075: Nicolas M. Thiéry: sage.structure.sage_object.unpickle_all improvements [Reviewed by Mike Hansen]
#9304: William Stein, David Loeffler: trac #8218 (finite_rings) broke all my pickles! [Reviewed by John Cremona]
#9581: Vincent Delecroix: edge_incident bug in generic_graph.py [Reviewed by Nathann Cohen]
#9648: Christian Stump: New feature: ModulesWithBasis allows module_morphism's to a wider class of codomains [Reviewed by Nicolas M. Thiéry, Jeroen Demeyer]
#9651: Christian Stump: Addition on CombinatorialFreeModule directly on dictionaries [Reviewed by Daniel Bump]
#9663: Fredrik Johansson, Nathann Cohen: Fast computation of Stirling numbers of 2nd kind [Reviewed by Nathann Cohen, Nicolas Borie, Jeroen

Demeyer]

#9698: Fidel Barrera-Cruz: Hamiltonian cycles in undirected graphs - backtracking algorithm. [Reviewed by Nathann Cohen]

#9799: Leif Leonhardy, John Palmieri: Running "make" in SAGE_ROOT returns the wrong exit code, leading to all kinds of confusion [Reviewed by Jeroen Demeyer]

#9808: Stefan Reiterer, François Bissey, John Palmieri, David Kirkby, Karl-Dieter Crisman: Upgrade numpy to 1.5.0 and scipy to 0.8 [Reviewed by Karl-Dieter Crisman, David Kirkby, Leif Leonhardy, François Bissey]

#9913: Burcin Erocal: n() returns symbolic expression [Reviewed by Paul Zimmermann]

#10011: Leif Leonhardy: "sage -upgrade" appears to hang when its output is tee'd [Reviewed by Jeroen Demeyer]

#10012: Jeroen Demeyer: Set _pari_prime when initializing NumberFieldIdeal from a PARI prime ideal [Reviewed by John Cremona]

#10024: Volker Braun: dump()/dumps() fails for class Polyhedron [Reviewed by Andrey Novoseltsev]

#10025: Yann Laigle-Chapuy, Nathann Cohen: sloane_sequence(111776)[2][:36] != sloane.A111776.list(36) [Reviewed by Nathann Cohen, Yann Laigle-Chapuy]

#10043: Nathann Cohen: Complete rewrite of LP solver interfaces [Reviewed by Martin Albrecht, Nathann Cohen]

#10047: David Roe: ZeroDivisionError in crt method of IntegerMod [Reviewed by Paul Zimmermann]

#10056: Thierry Monteil: Change OEIS database internet address to its new adrress [Reviewed by Mike Hansen]

#10063: Thierry Monteil: Some determinants can not be computed [Reviewed by Mike Hansen, Sébastien Labbé]

#10072: Flavia Stan: Bug in log gamma evaluation [Reviewed by Paul Zimmermann]

#10079: Jean-Pierre Flori: Typo in doc of symbolic/relation.py [Reviewed by Minh Van Nguyen]

#10101: Nathann Cohen: is_line_graph() method [Reviewed by Leonardo Sampaio]

#10105: John Cremona: cremona_letter_code does not handle erroneous input gracefully. [Reviewed by David Kirkby, Jeroen Demeyer]

#10115: Jeroen Demeyer: Change _sig_on to sig_on() [Reviewed by Martin Albrecht]

#10121: Dmitrii Pasechnik: cleaned lapack spkg metadata and added hgignore [Reviewed by David Kirkby]

#10125: Ivan Andrus: Mac App doesn't start server by default [Reviewed by Karl-Dieter Crisman]

#10127: Nicolas Borie: Fix initialization order in CombinatorialFreeModule [Reviewed by Nicolas M. Thiéry]

#10129: John Palmieri: citation.pyx: don't return false positives based on path [Reviewed by Mike Hansen]

#10148: Volker Braun: Automorphism group of a Polyhedron [Reviewed by Andrey Novoseltsev]

#10157: Jeroen Demeyer: #9799 breaks bdisted binaries (lacking pipestatus) [Reviewed by John Palmieri]

#10158: Yann Laigle-Chapuy: efficiency problem when constructing matrices from list of list [Reviewed by Robert Bradshaw]

#10159: John Palmieri: matplotlib: avoid race conditions when creating (config) directories [Reviewed by Leif Leonhardy]

#10162: John Palmieri: sage-location: "update" library files the first time this is run [Reviewed by Leif Leonhardy]

#10174: Emmanuel Thome: relative norm and trace in relative number fields are slow [Reviewed by Luis Felipe Tabera Alonso]

Merged in sage-4.6.1.alpha1:

#378: Mitesh Patel, Felix Lawrence: User-specified path for load and

attach [Reviewed by Ross Kyprianou]

#5422: Aly Deines: Quadratic forms polynomial [Reviewed by Simon Spicer]

#7513: Jeroen Demeyer, Leif Leonhardy: Update Mercurial to 1.6.4 [Reviewed by Leif Leonhardy, Jeroen Demeyer]

#7709: Nathann Cohen: Graph constructor : Graph(edges=[...]) [Reviewed by Robert Miller]

#8291: Alex Ghitza: eisenstein_series_qexp ridiculously bad over finite fields [Reviewed by Martin Raum]

#8775: Burcin Erocal: Bug in conjugate of symbolic ring [Reviewed by Luis Felipe Tabera Alonso]

#8792: Minh Van Nguyen: clean up documentation of logic/booleval.py [Reviewed by John Thurber]

#9655: Oscar Gerardo Lazo Arjona: Add an example plotting spherical harmonics to spherical_plot3d's docstring [Reviewed by Simon Spicer]

#9685: Robert Miller: constructor for the all ones matrix [Reviewed by Felix Lawrence]

#9832: Tim Dumol: Invalid HTML in data/sage/html/login.html [Reviewed by Jeroen Demeyer]

#9838: Daniel Bump: Bugfix in WeylCharacterRing __call__ method [Reviewed by Anne Schilling]

#9850: Niles Johnson: make style of documentation consistent with sagemath.org [Reviewed by Mitesh Patel, John Palmieri, Minh Van Nguyen, Rob Beezer]

#9919: Johan Sebastian Rosenkilde Nielsen: Wrap wraps-decorator working around bug when used with non-function callables [Reviewed by Robert Miller]

#9954: Volker Braun: f_vector outputs an extra top-dimensional cell [Reviewed by Andrey Novoseltsev]

#10040: Leif Leonhardy: Don't ask for verbose output from tar when installing packages [Reviewed by Mitesh Patel]

#10094: Volker Braun, Jeroen Demeyer: cython and C++ [Reviewed by Robert Bradshaw]

#10096: John Cremona: sha().an() assumes E is minimal. [Reviewed by Aly Deines]

#10114: Jeroen Demeyer: Upgrade PARI to 2.4.3 (released) [Reviewed by François Bissey]

#10150: Nathann Cohen: Change add_constraint to add_linear_constraint in the new LP interfaces [Reviewed by Martin Albrecht]

#10151: Nathann Cohen: Update calls to MixedIntegerLinearProgram and its solve function to follow the new interface [Reviewed by Martin Albrecht]

#10156: Jeroen Demeyer, John Palmieri: Rename top-level makefile to Makefile [Reviewed by Volker Braun]

#10182: Damek Davis: long doctest wrongly tagged "# long" instead of "#long time" [Reviewed by Benjamin Jones]

#10197: Minh Van Nguyen: typo in Sage documentation article: "Elliptic Curves -- Three Lectures about Explicit Methods in Number Theory" [Reviewed by Geoffrey Ehrman]

#10201: Johan Sebastian Rosenkilde Nielsen: Developer's Guide: link to Stein's blog post on reviewing [Reviewed by Minh Van Nguyen]

#10203: André Apitzsch: Missing < in developer documentation [Reviewed by Simon Spicer]

#10205: Jeroen Demeyer: Random test in sage.graphs.generic_graph_pyx.find_hamiltonian takes a very long time [Reviewed by Minh Van Nguyen]

#10207: Florent Hivert: Sage silently fails when passing wrong side for cayley_graph [Reviewed by Mike Hansen]

#10208: John Palmieri: Remove "warning: Replacing library search directory..." if caused by symbolic links [Reviewed by Leif Leonhardy]

#10209: Alex Ghitza: typo in vm_basis.py [Reviewed by Martin Raum]

#10210: Jeroen Demeyer: Typos in sage/rings/arith.py [Reviewed by André Apitzsch]

#10214: Jeroen Demeyer: Add numpy dependencies to module_list.py

[Reviewed by Leif Leonhardy]
#10219: Francis Clarke: typo in rings/quotient_ring.py [Reviewed by Mike Hansen]
#10228: Alex Ghitza: optimize computation of Delta modulo an integer [Reviewed by Martin Raum]
#10237: Andrey Novoseltsev: Polyhedra of trivial cones are wrong [Reviewed by Volker Braun]
#10238: Volker Braun: Containment checks are wrong for empty polyhedra [Reviewed by Andrey Novoseltsev]
#10241: David Kirkby: Remove unportable '-q' option to grep on SAGE_ROOT/spkg/install [Reviewed by Dmitrii Pasechnik]
#10243: David Kirkby: Update README.txt to remove list of supported platforms, and replacing by web link [Reviewed by André Apitzsch, Robert Bradshaw]
#10248: David Kirkby: Improve the "Build Support" & "Quality" sections of the "Inclusion Procedure for New Packages" page in the Developers Guide [Reviewed by Dmitrii Pasechnik]

Merged in sage-4.6.1.alpha2:

#6456: Harald Schilly, Dmitrii Pasechnik: Upgrade cvxopt in sage from 0.9 to 1.1.3 [Reviewed by Mike Hansen, Karl-Dieter Crisman]
#8431: Vincent Delecroix, Timo Jolivet, Franco Saliola, Stepan Starosta: Substitutions over unit cube faces (Rauzy fractals) [Reviewed by Sébastien Labbé, Alexandre Blondin Massé]
#8451: Chris Wuthrich: improve galois representation for elliptic curves [Reviewed by Robert Miller, Drew Sutherland]
#8674: Sébastien Labbé: Comparison of combinatorial class of words with word paths is broken [Reviewed by Alexandre Blondin Massé]
#9345: Luis Felipe Tabera Alonso: Unhandled SIGFPE in rational_reconstruction if the modulus is zero [Reviewed by Minh Van Nguyen, Jeroen Demeyer]
#9418: David Kirkby, Jeroen Demeyer: Add GNU patch 2.5.9 as a standard package. [Reviewed by David Kirkby, Jeroen Demeyer, John Cremona]
#9448: Jeroen Demeyer: make it clearer not to edit sources in site-packages [Reviewed by Minh Van Nguyen]
#9523: David Kirkby: Upgrade the Readline spkg to 6.1 [Reviewed by Florent Hivert, Leif Leonhardy, Jeroen Demeyer, Volker Braun]
#9893: Jeroen Demeyer: Make PARI *not* catch signals [Reviewed by Robert Bradshaw]
#9907: Johan Sebastian Rosenkilde Nielsen: Move generally usable decorators to misc.decorators [Reviewed by Robert Miller]
#10002: Jeroen Demeyer: Eliminate use of Gp in number_field.py [Reviewed by John Cremona]
#10026: John Cremona: Complex elliptic logs -- simplified algorithm [Reviewed by Chris Wuthrich]
#10076: John Cremona: Bug in is_divisible_by on elliptic curves [Reviewed by Chris Wuthrich]
#10107: Mike Hansen: Too many functions from databases/cremona.py are exported globally [Reviewed by Robert Miller, Aly Deines]
#10118: Minh Van Nguyen, Jeroen Demeyer: upgrade sphinx to version 1.0.4 [Reviewed by Jeroen Demeyer, Minh Van Nguyen]
#10239: Jeroen Demeyer: Bessel method forces bessel_Y to use pari algorithm [Reviewed by Joris Vankerschaver]
#10250: Andrey Novoseltsev, Jason Grout: segfault when multiplying QQ constant and SR vector (with user basis) [Reviewed by Jason Grout, Andrey Novoseltsev]
#10260: Jeroen Demeyer: module_list.py: quaternion_algebra_element.pyx wrongly uses -std=c99 option [Reviewed by François Bissey]
#10263: Jeroen Demeyer: Headings of Sage library code files should state GPLv2+ instead of GPL without version [Reviewed by André Apitzsch]

#10264: Jeroen Demeyer: Doctest for r.chdir() should use realpath [Reviewed by Mitesh Patel]
#10270: André Apitzsch: proof.polynomial(False) has no effect on factor [Reviewed by Paul Zimmermann]
#10274: Robert Bradshaw: Example coercion code is broken [Reviewed by William Stein]
#10283: Martin Albrecht: Fix reference in eliminate_linear_variables [Reviewed by Minh Van Nguyen]
#10290: Jeroen Demeyer: Upgrade Pygments to version 1.3.1 [Reviewed by Minh Van Nguyen]
#10293: Mike Hansen: sage -startuptime is broken [Reviewed by François Bissey]
#10299: John Palmieri: add "patch" to SAGE_ROOT/local/bin/.hgignore [Reviewed by David Kirkby]

Merged in sage-4.6.1.alpha3:

#6094: David Joyner, William Stein, Johan Sebastian Rosenkilde Nielsen: Change all occurrences of "method" to "algorithm" [Reviewed by Rob Beezer, Robert Miller]
#9618: Nathann Cohen: Slight improvement to vertex_coloring [Reviewed by Robert Miller]
#9864: Leif Leonhardy, Mitesh Patel: Error building PIL on RHEL Server 5.5 [Reviewed by Jeroen Demeyer]
#9933: Martin Albrecht: BooleanPolynomialRing not recognizing leading term of elements [Reviewed by Mariah Lenox]
#9940: John Palmieri: Fix equality/inequality for AdditiveAbelianGroup [Reviewed by Rob Beezer]
#10183: Damek Davis, Benjamin Jones: long doctests wrongly tagged "# long" instead of "#long time" [Reviewed by John Cremona, Minh Van Nguyen]
#10187: Volker Braun, David Kirkby: Update ECL to 10.4.1 and Maxima to 5.22.1 - currently the latest releases. [Reviewed by Karl-Dieter Crisman, David Kirkby, Volker Braun, Leif Leonhardy]
#10188: Volker Braun: mpir spkg needs update for Fedora 14 [Reviewed by Leif Leonhardy]
#10220: Jason Grout: Unnecessary imports cause slower sage startup [Reviewed by Jeroen Demeyer]
#10236: Chris Wuthrich: bug in modular symbols for elliptic curves [Reviewed by John Cremona]
#10287: Minh Van Nguyen: memleak in bitset_realloc() [Reviewed by Robert Miller]
#10288: John Palmieri: Experimental package 'CHomP' fails to install on OpenSolaris x86 [Reviewed by David Kirkby]
#10291: Mike Hansen: Plots are changing if showed multiple times [Reviewed by Andrey Novoseltsev]
#10300: Jeroen Demeyer: Test some command line options [Reviewed by André Apitzsch]
#10302: John Palmieri: sage -sh should pass exitcode [Reviewed by Jeroen Demeyer]
#10304: Mathieu Guay-Paquet: PolynomialRing_field.lagrange_polynomial doesn't always return a polynomial [Reviewed by Minh Van Nguyen]
#10306: Jeroen Demeyer: Redirect stdout and stderr of sage-cleaner to /dev/null in sage-sage [Reviewed by Mike Hansen]
#10309: Jeroen Demeyer: Fix doctest error in doc/en/numerical_sage/cvxopt.rst [Reviewed by Dmitrii Pasechnik]
#10324: Jeroen Demeyer: Cython syntax highlighting for Cython code in sage/gsl/ode.pyx [Reviewed by Mike Hansen]
#10326: Jeroen Demeyer: Various clean-up in local/bin/sage-sage [Reviewed by Rob Beezer, Leif Leonhardy]
#10350: Jeroen Demeyer: Fix some remaining issues with sphinx-1.0.4.p3.spkg [Reviewed by Minh Van Nguyen]

#10359: Leif Leonhardy: Let PIL search '.../lib64' directories for optional libraries if appropriate [Reviewed by Volker Braun]
#10362: Rob Beezer: Improve vector constructor documentation [Reviewed by Andrey Novoseltsev]
#10422: Rob Beezer: new_matrix constructor documentation fix [Reviewed by Benjamin Jones]
#10423: Leif Leonhardy: Upgrade Jinja2 to version 2.5.5 (latest upstream) [Reviewed by Jeroen Demeyer]
#10431: Jeroen Demeyer: cmdline.py doctest failures on fulvia (SunOS) [Reviewed by Dan Drake]

Merged in sage-4.6.1.rc0:

#9163: Jeroen Demeyer: Doctest error in expect.py on Cygwin and OS X [Reviewed by Volker Braun]
#9434: John Palmieri: Stop greping for a non-existent sage-banner [Reviewed by Jeroen Demeyer, David Kirkby]
#9863: Maarten Derickx, Mitesh Patel: Error in sage/graphs/genus.pyx on ia64-Linux-suse [Reviewed by Mitesh Patel, Jeroen Demeyer]
#10177: Maite Aranes: Gamma0 equivalence function for number field cusps returns wrong transformation matrix [Reviewed by David Loeffler]
#10339: Jeroen Demeyer, Leif Leonhardy: Simplify spkg/pipestatus [Reviewed by Leif Leonhardy]
#10367: Benjamin Jones: plot3d transformation documentation says 'independent' when it should be 'dependent' [Reviewed by Jason Grout]
#10427: John Palmieri: cloning is broken on Solaris [Reviewed by Leif Leonhardy]
#10434: Minh Van Nguyen: add doctests from #8582 and other integration improvements from Maxima 5.22.1 [Reviewed by Karl-Dieter Crisman]

Merged in sage-4.6.1.rc1:

#10491: Jeroen Demeyer, Leif Leonhardy: Dump environment before building [Reviewed by Volker Braun]
#10494: Leif Leonhardy, Jeroen Demeyer: Upgrading 4.6->4.6.1 does not upgrade sagenb [Reviewed by Jeroen Demeyer, Leif Leonhardy, Geoffrey Ehrman]
#10528: Robert Bradshaw: sage0.py doctest failures on sage.math [Reviewed by Maarten Derickx]
#10533: Eviatar Bach: Add digraph_generators.py to the documentation [Reviewed by Nathann Cohen]
#10569: John Thurber: documentation formatting fix in schemes/hyperelliptic_curves/hyperelliptic_finite_field.html [Reviewed by Aly Deines]
#10580: Jeroen Demeyer: Bump maximum number of occurances of the word "tree" in sage/misc/sagedoc.py [Reviewed by Volker Braun]