

PACE4 Version Summary

v4.32.4 to v4.35.4

Current version	Version 4.35.4
Current revision date	15-MAY-2026
Version range summarized	v4.32.4 (07/12/21) through v4.35.4 (05/15/26)
Source	PACE4 ftype.h version-history comments
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Executive summary

- The period from v4.32.4 to v4.33.2 focused mainly on path handling, platform compatibility, and Qt 6 migration.
- The v4.34 series focused on input/output fixes and mass-database modernization, including database path corrections and the transition toward SQLite.
- v4.34.15 was explicitly retracted in the source history and should not be treated as a stable reference.
- The v4.35 series restarted active PACE4 source work in 2026, including traceback safety, PACE2-equivalence checks, CHNPRB corrections, STATIS bounds fixes, safe goto cleanup, and output formatting fixes.
- v4.35.4 is the current version recorded in the uploaded ftype.h file.

Version-history phases

Version range	Period	Main theme	Summary
v4.32.4-v4.33.2	2021-2022	Qt/path portability	Path handling, non-Latin path support, Linux compatibility, and Qt 6.3/6.4 migration.
v4.34.1-v4.34.14	2023	Physics input, file I/O, and mass database	ARATIO type correction, output date/time, GUI/file-read fixes, and AME mass database migration from text/Access toward SQLite.
v4.34.15	2023	Retracted release	Marked as retracted in the source history.
v4.34.16-v4.35.4	2026	PACE2 audit and source refactoring	Traceback writing protection, PACE2-equivalence checks, CHNPRB corrections, STATIS bounds fix, GCLVD hotfix, goto cleanup, and output-label corrections.

Chronological version summary

The table below keeps the wording close to the source comments, but groups each change into a short category for easier scanning.

Version	Date	Category	Change summary
4.32.4	07/12/21	Path configuration	Correction for lise.ini path.
4.32.5	12/03/21	Path / encoding	Modified for non-Latin AME2016 path.
4.32.6	12/04/21	Qt/C++ cleanup	Modified for const QString& usage.
4.32.7	12/29/21	Portability	Compatibility with Linux.
4.32.8	07/13/22	Qt migration	Migrating to Qt 6.3.
4.32.9	09/07/22	Qt migration	Fixed mapping bug in Qt 6.3: mapped(int) to mappedInt(int).
4.33.1	10/19/22	Qt migration	Migrating to Qt 6.4.
4.33.2	10/19/22	Qt/C++ cleanup	Changed QString::number usage to

			qbuf.number.
4.34.1	04/28/23	Physics/input correctness	Corrected ARATIO type from int to double; cleaned declarations of functions moved to class PACE.
4.34.2	04/28/23	Output	Modification for date/time in output.
4.34.5	05/15/23	GUI/layout	Corrections in tfusion_2a2 layout.
4.34.6	05/15/23	File I/O	Corrections for file read in INPUT > 1.
4.34.7	05/15/23	GUI/file I/O	Set current page to 0 after file reading.
4.34.8	06/18/23	Mass database	Changed the AME database from a text file to an Access .accdb file; changed lise_mass.cpp to use SQL to read masses.
4.34.9	07/01/23	Build	Compiled with MSVC.
4.34.10	07/04/23	Mass database	Modifications in LISE mass.
4.34.11	07/04/23	Project cleanup	Removed dbf C-file from the project.
4.34.12	07/25/23	Mass database	Moved to SQLite format.
4.34.13	08/16/23	Bug fix	Corrected database path handling.
4.34.14	08/16/23	Bug fix	Corrected AZ-gate database request.
4.34.15	08/16/23	Retracted	Version was retracted.
4.34.16	05/15/26	Refactoring / audit start	Started PACE optimization with OpenAI; introduced traceback record helper for event writing.
4.35.1	05/15/26	PACE2 comparison / audit	Compared PACE2 and PACE using OpenAI. Protected traceback event writing; restored CHNPRB probability cutoff and energy-bin stopping condition to PACE2 logic; named legacy RLEV stride; reverted bad YJM normalization; fixed STATIS mode-array out-of-bounds; restored GCLVD variable PACE2 binning; compiled successfully; began PACE3statis goto optimization.
4.35.2	05/15/26	Hotfix	Reverted commit 78f4611 because of the G-E1 problem caused by the GCLVD variable-binning change.
4.35.3	05/15/26	Refactoring	Continued work on goto cleanup.
4.35.4	05/15/26	Output	Output format correction; current version in ftype.h.

Key technical notes

- **v4.34.15 retraction:** The source history marks v4.34.15 as retracted. The stable 2023 reference should therefore remain v4.34.14 unless a later corrected version is used.
- **PACE2-equivalence audit:** The v4.35.1 work restored several PACE2-related details and fixed a STATIS bounds issue, but the GCLVD variable-binning restoration was later reverted because it produced a G-E1 problem.
- **v4.35.2 hotfix:** v4.35.2 reverted the problematic GCLVD change while keeping the safer traceback/statistics and CHNPRB corrections.
- **v4.35.3-v4.35.4:** The following updates focused on source-structure cleanup and output formatting rather than major physics-model changes.

Suggested release-note wording for v4.35.4

- PACE4 v4.35.4 is the current corrected version after the 2026 PACE2/PACE4 audit pass.
- It keeps traceback event-writing protection, CHNPRB probability-selection corrections, STATIS bounds fixes, and safe source-structure cleanup.
- The GCLVD variable-binning restoration introduced in v4.35.1 was reverted because it distorted G-E1 gamma yields.
- The version also includes output-format corrections for transmission-coefficient and diagnostic displays.