

RADTRAD Change Log: Version 5.0.1

Released June 2020

- An error in the implementation of the L^∞ (local) error norm was fixed, making this a suitable error norm to use in addition to the L_2 (global) norm. The L^∞ norm determines the nuclide with the largest error and minimizes this error. This minimizes error, even for nuclides that have negligible impact. The L_2 norm calculates a root mean square error for dose which is then minimized. The practical result is that the L_2 norm minimizes the error of those nuclides which contribute the most to dose.
- A source term initialization error that occurs when adaptive time stepping is used was fixed. This bug was introduced with adaptive time stepping in RADTRAD 4.5.0. Impacts vary among test cases, with test results showing many cases with negligible impact, and other cases showing error as large as 20% in the cumulative dose. Cloudshine dose appears to be more heavily impacted than TDED and Thyroid dose.