

Standardized Astrodynamic Algorithm Library V7.9 Release Notes

- What's new
 - Added new conversion function AzElToRaDec to the AstroFunc API.
 - Add new function BatchDCGetAcptCrit to the API, which returns acceptance criteria of BatchDC's output.
 - Add new function SpGetEphemTimes to the API, which returns the times of ephemeris points that meet input requirements.
 - Allow TLE format to support alpha-5 numbering schema.
 - Allow obs formats (B3, TTY) to support alpha-5 numbering schema.
 - SatStateGenEphFile can now generate ephemeris data using SP's natural step size, allowing for a more efficient way to store data.
- Bug Fixes and Enhancements:
 - AstroFunc: Added new conversion function AzElToRaDec to the API.
 - BatchDC: Added new free-card format 'VCMOUT='.
 - BatchDC: Added new function BatchDCGetAcptCrit to the API, which returns acceptance criteria of BatchDC's output.
 - Combo: Fixed bug that incorrectly used the primary satkey when calculating the secondary satellite's apogee/perigee data.
 - ExtEphem: Allow ExtEphem to support more of STK's .e formats.
 - Lamod:
 - Fixed bug that incorrectly reported umbra/penumbra conditions of a satellite.
 - Fixed bug that incorrectly reported earth obstruction/earth in background conditions of a satellite.
 - Fixed bug that incorrectly handled case where only rise time is found in the last pass.
 - Fixed bug that incorrectly converted sun and moon unit vectors to earth radius units.
 - Fixed bug that incorrectly applied light time corrections.
 - Fixed bug that incorrectly returned different results when swapping the orders of az/el limits in 1L/2L cards.
 - Obs: Allow obs formats (B3, TTY) to support alpha-5 numbering schema.
 - ObsOps: Fixed bug that incorrectly returned the time of the first obs and not the second.
 - Rotas:
 - Added longitude delta to ROTAS delta output array.
 - Fixed bug that incorrectly applied light time corrections for obs types 18 and 19.
 - Fixed bug that incorrectly returned NaN for some fields.
 - SatState: Allow SatStateGenEphFile to generate ephemeris data using SP's natural step size.
 - SatState: Fixed bug in SatStateGenEphFile that incorrectly printed times as " S.SSS" instead of "0S.SSS" when seconds are less than 10.
 - SGP4: Fixed bug in Sgp4ReepochTLE that incorrectly returned "*****" in some returned TLEs.
 - SP:

- Added new function SpGetEphemTimes to the API, which returns the times of ephemeris points that meet input requirements.
 - Fixed bug that incorrectly returned covariance matrix when propagating satellite for 0 time.
 - Fixed bug that failed to load flux files when reading from BatchDCLoadFileAll.
- SpVec: Fixed bug that didn't confirm that an SpVec was not already loaded into memory when loading identical data.
- TLE
 - Allow TLE format to support alpha-5 numbering schema.
 - Fixed bug that misnamed TleAddSatFrArray in Linux.
 - Fixed bug in TleSaveFile that incorrectly created a file when the supplied path did not exist.
- VCM: Allow VCM format to support 9-digit satellite numbers.
- Past Releases:
 - V7.8.1 – Full non-beta release of SAAL on Windows (32/64) and Linux (32/64): 24 July 2018
 - V7.8 - Full non-beta release of SAAL on Windows (32/64) and Linux (32/64): 15 June 2017
 - V7.7 - Public Release of SGP4 only on Windows (32/64) and Linux (32/64): 15 March 2016
 - V7.beta6 - SGP4, SP, LAMOD, COMBO, ROTAS, IOMOD, BATCHDC on Linux (32/64): 28 October 2014
 - V7.beta6 - SGP4, SP, LAMOD, COMBO, ROTAS, IOMOD, BATCHDC on Windows(32/64): 27 October 2014
 - V7.beta5 - SGP4, SP, LAMOD, COMBO on Windows(32/64): 25 August 2014
 - V7.beta4 - SGP4, SP, LAMOD, COMBO on Linux(32/64): 25 September 2012
 - V7.beta4 - SGP4, SP, LAMOD, COMBO on Windows(32/64): 17 September 2012
 - V7.beta - COMBO on Windows: 28 October 2011
 - V7.beta1 - LAMOD on Windows: 28 Jun 2011
 - V7.beta - LAMOD on Windows: 02 Jun 2011
 - V7.beta3 - SGP4, SP on Windows: 21 March 2011
 - V7.beta2 - SGP4, SP on Linux: 06 October 2010
 - V7.beta1 - SGP4, SP on Windows: 27 July 2010
 - V7.beta - SGP4, SP on Windows: 08 December 2008