Standardized Astrodynamic Algorithm Library V7.8.1 Release Notes

- What's new
  - LAMOD obs generation with light time correction option.
  - Allowed the user to select between SPHERICAL or OBLATE earth model (to be used in application like LAMOD).
  - Allowed converting obs data between different frames (ECI, topocentric horizontal, topocentric equatorial, etc.).
  - Added a new mode, TASK mode, in LAMOD which treats any gaps that are bigger than the set interval as a break of a pass. This helps fix the problem with current CULMINATION mode when there might be big gap in the middle of a pass.
  - Implemented Gooding algorithm in ObsOps.

- Bug Fixes and Enhancements:
  - LAMOD: fixed false/missed culmination time for HEO.
  - LAMOD: fixed infinite loop when using external ephemeris.
  - ROTAS: fix NaN in synthesized range for downward looking orbiting sensor.
  - BatchDC: fixed bug that doesn't solve for drag when input is SGP elset.
  - BatchDC: used the actual EDR and BDOT values from VCM when generating new VCM.
  - Coco/ElComp: Validated that the delta right ascension of the ascending node is less than 180 degrees (e.g. one has RAAN = 1 and the other has RAAN = 359, the delta RAAN should be 2 degrees instead of 358 degrees).
  - Modified ground sensors to not apply solar exclusion angle (only solar aspect angle applies).
  - Vectors from satellites to Sun and Moon are calculated from the satellite position and not from the center of the earth.
  - Added auto-adjusted output format for BTerm, Agom, and Outgassing parameters when writing those fields to SP vector's 1P/2P cards.
  - Corrected Fortran compiler flags in Linux builds to produce thread-safe shared objects.
  - TimeFunc: corrected documentation describing the import of 6P cards.

- Past Releases:
  - 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