

Paul G. Savage Publications

“Simplified Description of Optical Gyros – A Rigorous Analytical Development Without Vector Calculus”, SAI WBN-14027, www.strapdownassociates.com, May 23, 2020.

“Generating Strapdown Specific-Force/Angular-Rate For Specified Attitude/Position Variation From A Reference Trajectory”, SAI WBN-14026, www.strapdownassociates.com, April 21, 2020.

“Appendices F, G, And H to Generating Strapdown Specific-Force/Angular-Rate For Specified Attitude/Position Variation From A Reference Trajectory”, SAI WBN-14026a, www.strapdownassociates.com, April 21, 2020.

“Modern Strapdown Attitude Algorithms And Their Accuracy, Versus Accuracy Requirements For Unaided Strapdown Inertial Navigation”, SAI WBN-14025, www.strapdownassociates.com, February 9, 2020.

“Analytical Description Of Optical Gyros”, SAI WBN-14024, www.strapdownassociates.com, April 3, 2019 (Updated May 23, 2020).

“Analytically Deriving How Ring Laser And Fiber Optic Gyros Measure Angular Rotation”, SAI WBN-14023, www.strapdownassociates.com, November 1, 2018 (Updated March 31, 2019).

“Differential Point-To-Point Relativity In Rotating Coordinates”, SAI WBN-14022, www.strapdownassociates.com, May 28, 2018.

“Improved Strapdown Inertial Measurement Unit Calibration Procedures”, IEEE/ION Position Location and Navigation Symposium (PLANS), Monterey, California, Apr 23-26, 2018

“Differential Kinematics Of Point-To-Point Relativity”, SAI WBN-14021, www.strapdownassociates.com, March 11, 2018.

“Improved Strapdown Inertial System Calibration Procedures, Part 1, Procedures And Accuracy Analysis”, SAI WBN-14020-1, www.strapdownassociates.com, October 20, 2017 (Updated January 11, 2018).

“Improved Strapdown Inertial System Calibration Procedures, Part 2, Analytical Derivations”, SAI WBN-14020-2, www.strapdownassociates.com, October 20, 2017 (Updated January 11, 2018).

“Improved Strapdown Inertial System Calibration Procedures, Part 3, Numerical Examples”, SAI WBN-14020-3, www.strapdownassociates.com, November 10, 2017, (Updated January 11, 2018).

- “Down-Summing Rotation Vectors For Strapdown Attitude Updating”, SAI WBN-14019, www.strapdownassociates.com, July 16, 2017.
- “Digital Integration Algorithm Error For Band-Limited Random Process Inputs”, SAI WBN-14018, www.strapdownassociates.com, June 26, 2017.
- “Skewed Sensor Failure Detection Using Parallel Navigation Solutions”, SAI WBN-14017, www.strapdownassociates.com, June 16, 2016.
- “Blazing Gyros - The Movie”, SAI WBN-14016, www.strapdownassociates.com, May 16, 2016.
- “Introduction To The Kinematics Of Point-To-Point Relativity”, SAI WBN-14015, www.strapdownassociates.com, April 17, 2016 (Updated May 3, 2018).
- “Geordie’s Quaternion Decision”, SAI WBN-14014, www.strapdownassociates.com, February 17, 2016.
- “Program Management”, SAI WBN-14013, www.strapdownassociates.com, January 18, 2016.
- “Designing An Extended Kalman Filter For A Stellar Aided Strapdown Inertial Navigation System”, SAI WBN-14012, www.strapdownassociates.com, January 16, 2016.
- “Performance Analysis Of Strapdown Systems”, SAI WBN-14011, www.strapdownassociates.com, June 2, 2016.
- “Computational Elements For Strapdown Systems”, SAI WBN-14010, www.strapdownassociates.com, May 31, 2015.
- “Blazing Gyros - The Evolution Of Strapdown Inertial Navigation Technology For Aircraft - Web Version”, SAI WBN-14009, www.strapdownassociates.com, May 29, 2015.
- “Lever Arm Corrections During INS Transfer Alignment With Wide Angle Initial Heading Error”, SAI WBN-14008, www.strapdownassociates.com, April 17, 2015.
- “Coarse Leveling Of INS Attitude Under Dynamic Trajectory Conditions”, SAI WBN-14007, www.strapdownassociates.com, January 28, 2014.
- “Moving Base Alignment With Large Initial Heading Error”, SAI WBN-14006, www.strapdownassociates.com, October 3, 2014.
- “Modifying The Kalman Filter Measurement To Mitigate Second Order Error Amplification In INS Velocity Matching Alignment Applications”, SAI WBN-14005, www.strapdownassociates.com, July, 15, 2014.
- “Fixed Gain Digital Filter Design For Specified Phase Versus Frequency Response”, SAI WBN-14004, www.strapdownassociates.com, June 29, 2014.

- “Schuler Oscillations”, SAI WBN-14003, www.strapdownassociates.com, June 27, 2014.
- “Redefining Gravity And Newtonian Natural Motion”, SAI WBN-14002, www.strapdownassociates.com, May 21, 2014.
- “Mitigating Second Order Error Effects In Linear Kalman Filters Using Adaptive Process And Measurement Noise”, SAI WBN-14001, www.strapdownassociates.com, May 16, 2014.
- Introduction To Strapdown Inertial Navigation Systems*, Previously provided as part of Paul G. Savage's Introductory Strapdown Inertial Navigation course, Now Available For Purchase From Strapdown Associates, Inc.
- Strapdown Inertial Navigation Lecture Notes*, Previously provided as part of Paul G. Savage's Introductory Strapdown Inertial Navigation Course, Now Available For Purchase From Strapdown Associates, Inc.
- “Blazing Gyros: The Evolution of Strapdown Inertial Navigation Technology for Aircraft”, *AIAA Journal Of Guidance, Control, And Dynamics*, Vol. 36, No. 3, May - Jun 2013, pp. 637-655.
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“Strapdown System Algorithms”, NATO/AGARD LS-133, May 1984.

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