



MALSCE Webinar Series

Least Squares and Positional Tolerance

Thursday, April 22, 2021

12:00 PM - 1:00 PM EDT

Zoom Video Webinar*

The use of least squares is often a difficult subject in much of the surveying world because it uses math that we are not familiar with, or it is math we studied at long ago in a surveying class and worked hard to forget. We need to become comfortable with its use and learn that it can enhance our abilities in surveying. The seminar will start with real total station data and how it is simple to analyze a least squares report. Next GNSS network adjustment results will be examined. The least squares component of the 2021 ALTA/NSPS standards will next be examined as a standard most surveyors at some point need to deal with. The concepts of relative vs. absolute error ellipses and how 95% confidence is achieved will be themes throughout the discussion using the ALTA standard as an example. Suggestions for passing such standards will be presented. The seminar is very question/answer oriented.

* Zoom Video Webinars is a widely used webinar platform. You will hear the voice of the speaker and watch a PowerPoint and live software presentation. This technology allows for questions and answers. Webinar login information will be sent to registrants the week of the webinar.

Speaker

Raymond J. Hintz, PLS, PhD, Professor, University of Maine

Raymond J. Hintz is a professor of surveying engineering technology at the University of Maine, program coordinator for the B.S. program in surveying engineering technology and graduate coordinator for the Professional Science Masters in Engineering and Business surveying engineering concentration. His research interests lie in automation of data collection and processing of surveying and photogrammetric information. Dr. Hintz has published more than 50 articles in journal and conference proceedings related to surveying, and is a registered land surveyor in the states of Maine and Florida. He is active in promoting UAS technology, with a portion of two Photogrammetry courses he teaches dedicated to surveying and mapping using UAV technology. He also conducted nine one-day seminars to various organizations on UAV's in the last two years. In addition to his academic experience, Dr. Hintz is recognized for his role in developing several software packages including the Cadastral Electronic Field Book (CEFB), Cadastral Measurement Management (CMM) and Geographic Measurement Management (GMM). The CEFB enables automatic entry of measurement and automated field note information into CMM, a computation tool for survey and analysis of cadastral surveys. GMM was adopted as the approved tool for development of the Bureau of Land Management's Geographic Coordinate Data Base.

Registration Information

Registration Fees: \$50/person, \$100/up to three people, \$150/up to five people for MALSCE members and \$75/person, \$150/up to three people, \$225/up to five people for non-members. For group registrations the applicable registration fee will be determined by the membership status of the majority of registrants.

Registration Deadline: Monday, April 19, 2021. Individual webinar registrations will be accepted via fax, mail or online. Fax your registration to 617/227-6783. Mail your registration form and check (payable to "MALSCCE") to: MALSCCE, One Walnut Street, Boston, MA 02108. Use Visa, MasterCard or American Express to register online at <http://bit.ly/MALSCELeastSquares>. To register online for this webinar at the MALSCE member rate, login using your MALSCCE assigned username and password. If you do not know your member login information or if you need help registering call 617/227-5551. Group registrations will be accepted via fax or mail only. To register a group webinar participants, download the [MALSCCE](#)

[Webinar Group Registration Form](#) and follow the submission instructions. Registrations are processed on a first-come, first-served basis. No refunds will be given after the Monday, April 22, 2021 registration deadline. Registrants who fail to login to the webinar will be billed. This webinar is offered for the benefit of MALSCE members and other interested registrants. Anyone discovered viewing this webinar without having registered to do so will be billed the appropriate registration fee.

Continuing Education

This seminar is worth one professional development hour (subject to state-specific exclusions; seek clarification from appropriate state authorities). All webinar registrants will receive a certificate of participation after the webinar. Please complete the appropriate registration form with your legal name, address, and other contact information so that you will be properly identified on the certificate.

Tax Information

Expenses incurred for education undertaken to maintain and improve professional skills (including travel, meals and lodging) may be tax-deductible.

Individual Registration Form

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Registrant Information: For group registrations, please complete and return a [Group Registration Form](#).

Name: _____
Company (if applicable): _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____ Email: _____

Registration Fees

\$50 MALSCE Member*

* Members of, CALS, MSLS, NHLSA, NYSAPLS, RISPLS and VSLS can attend for the member rate. Please check the appropriate box below:

CALS MSLS NHLSA NYSAPLS RIPLS VSLS

\$75 Non MALSCE Member

Total Amount Enclosed _____

Make checks payable to "MALSCE" and mail with completed form to: MALSCE, The Engineering Center, One Walnut Street, Boston, MA 02108-3616

Or Pay with (Check one): Visa Master Card American Express

Card Name: _____
Card Number: _____ Expiration Date: _____
Billing Address: _____
City: _____ State: _____ Zip: _____
Signature: _____

- Registration is processed on a first-come, first-served basis. Registration deadline is Monday, April 19, 2021. No refunds will be given after this date. Registrants who fail to login will be billed.
- This program is worth one professional development contact hour (subject to state approval, New York excluded).
- Questions? Call 617/227-5551

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