

Accuracy assessment of RTK-GNSS equipped UAV conducted as-built surveys for construction site modelling

Varbla, Sander; Puust, Raido; Ellmann, Artu Survey review 2021 / p. 477-492 <https://doi.org/10.1080/00396265.2020.1830544>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Advancements in underground mine surveys by using SLAM-enabled handheld laser scanners

Ellmann, Artu; Kütimets, Kaia; Varbla, Sander; Väli, Erik; Kanter, Sander Survey review 2022 / p. 363-374
<https://doi.org/10.1080/00396265.2021.1944545> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Airborne laser scanning derived sea surface height datasets in the Gulf of Finland (10.05.2018)

Varbla, Sander; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille SEANOE 2020 <https://doi.org/10.17882/76491>

Applications of airborne laser scanning for determining marine geoid and surface waves properties

Varbla, Sander; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille European journal of remote sensing 2021 / p. 558-568
<https://doi.org/10.1080/22797254.2021.1981156> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Assessment of marine geoid models by shipborne GNSS and airborne laser scanning profiles

Varbla, Sander; Ellmann, Artu [EUREF2019 abstracts] 2019 / p. [59] <https://www.maaamet.ee/euref2019/EUREF2019-Abstracts.pdf>

Assessment of marine geoid models by ship-borne GNSS profiles

Varbla, Sander; Ellmann, Artu; Märdla, Silja; Gruno, Anti Geodesy and cartography 2017 / p. 41-49 : ill
<https://doi.org/10.3846/20296991.2017.1330771>

Assessment of marine geoid models by ship-borne GNSS profiles in the Gulf of Finland ; S3-P21

Varbla, Sander; Ellmann, Artu; Gruno, Anti International Symposium Gravity, Geoid and Height Systems 2 : GGHS2018 : "Gravity Field Of The Earth" : The 2nd joint meeting of the International Gravity Field Service and Commission 2 of the International Association of Geodesy, Copenhagen, Denmark, Sept. 17-21, 2018 : abstract book 2018 / p. 81

Centimetre-range deformations of built environment revealed by drone-based photogrammetry

Varbla, Sander; Ellmann, Artu; Puust, Raido Automation in Construction 2021 / art. 103787
<https://doi.org/10.1016/j.autcon.2021.103787> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Deeper insights into the validation of hydrodynamic models using a synergy of remote sensing data

Delpeche-Ellmann, Nicole Camille; Varbla, Sander; Jahanmard, Vahidreza; Ellmann, Artu Baltic Earth Workshop Climate projections and uncertainties in the northern Baltic Sea region, Helsinki, Finland, 19-20 November, 2019 : Programme, Abstracts, Participants 2019 / p. 14-15

Eesti geodeedid rahvusvahelises teaduses

Varbla, Sander; Ellmann, Artu Geodeet 2019 / lk. 56-58 : fot http://www.ester.ee/record=b1072198*est

Esimesed kogemused sateliit-tehisavaradari (SAR) aktiivtransponderitega Eestis

Varbla, Sander; Ellmann, Artu Geodeet 2020 / lk. 30-35 : ill http://www.ester.ee/record=b1072198*est

The forthcoming Baltic Sea Chart Datum 2000 – how harmonized height reference benefits sustainability

Schwabe, Joachim; Ågren, Jonas; Liebsch, Gunter; **Varbla, Sander; Ellmann, Artu**; Teitsson, Hergeir; Forsberg, Rene; Strykowski, Gabriel; Bilker-Koivula, Mirjam; Westfeld, Patrick XXVIII General Assembly of the International Union of Geodesy and Geophysics (IUGG) 2023 <https://doi.org/10.57757/IUGG23-2441>

Geodeesiakonverentsid Põhjamaades 2018. aastal

Varbla, Sander; Ellmann, Artu Geodeet 2018 / lk. 62-64 : fot http://www.ester.ee/record=b1072198*est

Geodetic SAR for Baltic height system unification and Baltic Sea level research : final report

Gruber, Thomas; Angermann, Detlef; Schlaak, Marius; Oikonomidou, Xanthi; Gisinger, Christoph; Brcic, Ramon; Poutanen, Markku; Marila, Simo; **Ellmann, Artu; Varbla, Sander** 2021 https://www.asg.ed.tum.de/fileadmin/w00cip/iapg/Baltic/SAR-HSU-FR-0022_Final_Report.pdf

Geodetic SAR for height system unification and sea level research - observation concept and preliminary results in the Baltic Sea

Gruber, Thomas; Ågren, Jonas; Angermann, Detlef; **Ellmann, Artu**; Engfeldt, Andreas; Gisinger, Christoph; Jaworski, Leszek; **Varbla, Sander** Remote sensing 2020 / art. 3747, 30 p. : ill <https://doi.org/10.3390/rs12223747> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Geodetic SAR for height system unification and sea level research - observation concept and results in the Baltic Sea

Gruber, Thomas; Ågren, Jonas; Angermann, Detlef; **Ellmann, Artu**; Gisinger, Christoph; Nastula, Jolanta; Poutanen, Markku; Schlaak, Marius; Nilfouroushan, Faramarz; **Varbla, Sander** Geodesy for a Sustainable Earth, Scientific Assembly of the International Association of Geodesy : abstract book 2021 / p. 78 S1-067 https://files.sciconf.cn/upload/file/20210626/20210626085039_69146.pdf

Geodetic SAR for height system unification and sea level research - observation concept and results in the Baltic Sea : [poster]

Gruber, Thomas; Lantmäteriet, Jonas Ågren; Angermann, Detlef; **Ellmann, Artu**; Gisinger, Christoph; Nastula, Jolanta; Poutanen, Markku; Schlaak, Marius; Lantmäteriet, Faramarz Nilfouroushan; **Varbla, Sander** Living Planet Symposium : Bonn, 23-27 May 2022 / 1 p https://express.converia.de/frontend/index.php?page_id=22633&additions_conferenceschedule_action=detail&additions_conferenceschedule_controller=paperList&pid=62935&hash=2524229591939d85af23f837766064279e6f1e649f62cdead4778160c1e39e50

Geodetic SAR for height system unification and sea level research-results in the Baltic Sea test network

Gruber, Thomas; Agren, Jonas; Angermann, Detlef; **Ellmann, Artu**; Engfeldt, Andreas; Gisinger, Christoph; Jaworski, Leszek; Kur, Tomasz; Marila, Simo; Varbla, Sander Remote sensing 2022 / art. 3250 <https://doi.org/10.3390/rs14143250> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Geodetic validation of sea Level variability in offshore

Ellmann, Artu; Kollo, Karin; **Varbla, Sander** IUGG 2019 : abstract book 2019 / [1] p., abstract: JG06 p-109 <http://iugg2019montreal.com/abstract-book.html>

Geotechnical analysis of road embankment test sections over soft peat layer in Estonia

Sillamäe, Sven; **Ellmann, Artu**; **Varbla, Sander** 30th International Baltic Road Conference August 23–24, 2021 : Abstracts 2021 / p. 29 https://balticroads.org/wp-content/uploads/2021/08/BRC_Abstacts_2021_V2.pdf

The influence of bathymetry on regional marine geoid modeling in Northern Europe

Varbla, Sander Journal of Marine Science and Engineering 2022 / art. 793, 25 p. : ill <https://doi.org/10.3390/jmse10060793> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

An initiative for a European Height Reference Surface

Schwabe, Joachim; Sacher, Martina; Liebsch, Gunter; Lidberg, Martin; Denker, Heiner; Ågren, Jonas; Alfredsson, Anders; Barzaghi, Riccardo; **Ellmann, Artu**; **Varbla, Sander** XXVIII General Assembly of the International Union of Geodesy and Geophysics (IUGG) 2023 <https://doi.org/10.57757/IUGG23-2451>

Iterative data assimilation approach for the refinement of marine geoid models using sea surface height and dynamic topography datasets

Varbla, Sander; **Ellmann, Artu** Journal of geodesy 2023 / art. 24, 22 p. : ill <https://doi.org/10.1007/s00190-023-01711-7>

Iterative data assimilation approach for the refinement of marine geoid models using sea surface height and dynamic topography datasets : [conference paper]

Varbla, Sander; **Ellmann, Artu** XXVIII General Assembly of the International Union of Geodesy and Geophysics (IUGG) 2023 <https://doi.org/10.57757/IUGG23-0253>

Iterative refinement and accuracy validation of marine geoid models = Meregeoidi mudelite iteratiivne täpsustamine ja täpsuse valideerimine

Varbla, Sander 2023 <https://doi.org/10.23658/taltech.35/2023> <https://digikogu.taltech.ee/et/Item/4087a2ae-321e-4a1b-b11f-dd8fd5ab1b99> https://www.ester.ee/record=b5568726*est

Iterative refinement of regional marine geoid models by using sea surface height and dynamic topography datasets

Varbla, Sander; **Ellmann, Artu** Geodesy for a Sustainable Earth, Scientific Assembly of the International Association of Geodesy : abstract book 2021 / p. 111 S2a-026 https://files.scicconf.cn/upload/file/20210626/20210626085039_69146.pdf

Iterative refinement of regional marine geoid models using sea surface height and dynamic topography datasets

Varbla, Sander; **Ellmann, Artu** Nordic Geodetic Commission General Assembly 2022 in Copenhagen : Poster Session 2022 / 38 l. <https://medialib.cmcdn.dk/medialibrary/010C1367-E991-4A33-AB10-1953247E9C23/530AEABD-3A25-ED11-84B6-00155D0B0940.pdf>

Kaugseire andmete kasutuselevõtt avalike teenuste väljatöötamisel ja arendamisel. Lisa 4, Ehitustegevuse planeerimine ja järelevalve : lõpparuanne

Puust, Raido; **Varbla, Sander** 2020 <https://doi.org/10.23673/re-254>

Kaugseire sügiskoolist Võrus

Varbla, Sander Geodeet 2019 / lk. 59-60 : fot http://www.ester.ee/record=b1072198*est

Meregeoidi mudelite iteratiivne täpsustamine ja täpsuse valideerimine

Varbla, Sander Geodeet 2024 / lk. 22-27 https://www.ester.ee/record=b1072198*est

Meregeoidi mudelite valideerimine GNSS- ja aerolaserskaneerimise profiilidega

Varbla, Sander Geodeet 2019 / lk. 19-26 : ill http://www.ester.ee/record=b1072198*est

Meregravimeetriselised mõõdistused Soome lahel projekti FAMOS raames

Varbla, Sander; Ellmann, Artu; Metsar, Jaanus; Oja, Tõnis Geodeet 2017 / lk. 39-43 : ill http://www.ester.ee/record=b1072198*est

Merevee taseme mõõtmine madala hinnaklassi GNSS-sensoriga

Koobak, Johanna; Varbla, Sander; Ellmann, Artu Geodeet 2022 / lk. 19-25 : ill http://www.ester.ee/record=b1072198*est

Modernization of construction as-built surveying documentation

Jerjomina, A.; **Varbla, Sander;** Hion, T.; **Ellmann, Artu** Current problems in engineering surveying abstracts of XVI International Science and Technology Conference 2023 / p. 15

Põhjamaade Geodeesiamisjoni teadusnädal Islandil

Rüdja, Andres; **Varbla, Sander;** Kollo, Karin; Metsar, Jaanus Geodeet 2020 / lk. 22-25 : fot http://www.ester.ee/record=b1072198*est

Realistic coastal dynamic topography by a synergy of satellite altimetry data and marine geoid : [poster]

Ellmann, Artu; Jahanmard, Vahidreza; Varbla, Sander; Mostafavi, Majid; Delpeche-Ellmann, Nicole Camille Living Planet

Symposium : Bonn, 23-27 May 2022 2022 / 1 p https://express.converia.de/frontend/index.php?page_id=22743&additions_conferenceschedule_action=detail&additions_conferenceschedule_controller=paperList&pid=67137&hash=a1163e52ec54485b30c276db107fa5d86c2ef04bebfeda3ddc6f3cced2129ff8

Release note for the BSCD2000 height transformation grid

Liebsch, Gunter; Schwabe, Joachim; **Varbla, Sander;** Agren, Jonas; Teitsson, Hergeir; **Ellmann, Artu;** Forsberg, Rene; Strykowski, Gabriel; Bilker-Koivula, Mirjam; Liepinš, Ivars The international hydrographic review 2023 / p. 194-199 <https://doi.org/10.58440/ihr-29-2-n11>

Report on availability and re-processing procedure of the historical marine gravity data of the southern and eastern Baltic Sea

Wilde-Piorko, M.; Bauer, T.; Bilker-Koivula, M.; **Ellmann, Artu;** Kaminskis, J.; Krynski, J.; Olsson, P.-A.; Olszak, T.; Paršeliunas, E. K.; Rosowiecka, O.; Schwabe, J.; Strykowski, G.; Szlachowska, M.; Szulwic, J.; Tomczak, A.; **Varbla, Sander;** Zuševics, V. 2023 https://interreg-baltic.eu/wp-content/uploads/2023/10/report_historical_final.pdf

Retrieval of directional power spectral density and wave parameters from airborne LiDAR point cloud

Jahanmard, Vahidreza; Varbla, Sander; Delpeche-Ellmann, Nicole Camille; Ellmann, Artu Ocean engineering 2022 / art. 112694 <https://doi.org/10.1016/j.oceaneng.2022.112694> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Road deformation monitoring using unmanned aerial vehicles

Varbla, Sander; Ellmann, Artu; Puust, Raido 30th International Baltic Road Conference August 23–24, 2021 : Abstracts 2021 / p. 58 https://balticroads.org/wp-content/uploads/2021/08/BRC_Abstacts_2021_V2.pdf

Sea level measurements by a low-cost GNSS sensor-equipped marine buoy

Koobak, Johanna; Varbla, Sander; Ellmann, Artu Nordic Geodetic Commission General Assembly 2022 in Copenhagen : Poster Session 2022 / 37 p <https://medialib.cmcn.dk/medialibrary/010C1367-E991-4A33-AB10-1953247E9C23/530AEABD-3A25-ED11-84B6-00155D0B0940.pdf>

Shipborne GNSS acquisition of sea surface heights in the Baltic Sea

Liibus, Aive; **Varbla, Sander; Ellmann, Artu; Vahter, Kaimo; Uiboupin, Rivo; Delpeche-Ellmann, Nicole Camille** Journal of geodetic science 2022 / 21 p. : ill., map <https://doi.org/10.1515/jogs-2022-0131> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Shipborne GNSS-determined sea surface heights using geoid model and realistic dynamic topography

Varbla, Sander; Liibus, Aive; **Ellmann, Artu** Remote sensing 2022 / art. 2368, 30 p. : ill <https://doi.org/10.3390/rs14102368> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Sildkraanatee laserskanneriga mõõdistamise täpsuse aprobeerimine

Haljend, Emil; Kala, Vello; Varbla, Sander Geodeet 2020 / lk. 26-28 : ill http://www.ester.ee/record=b1072198*est

Status report for the EUREF Working Group “European Unified Height Reference”

Schwabe, Joachim; Sacher, Martina; Liebsch, Gunter; Lidberg, Martin; Denker, Heiner; Ågren, Jonas; Alfredson, Anders; Barzaghi, Riccardo; **Ellmann, Artu; Varbla, Sander** Abstracts EUREF 2023 2023 / p. 9-10 https://www.chalmers.se/api/media/?url=https://cms.www.chalmers.se/Media/vifgxhe/abstract_booklet_euref_2023_may22.pdf?

Tallinna teede ja tänavate katendite deformatsioonide ja katete kulumise määramine, lähtudes liiklussagedusest ja teekatendi konstruktsioonist 2. etapp : aruanne

Aavik, Andrus; Ellmann, Artu; Varbla, Sander; Rõuk, Harri 2018 https://uuringud.tallinnlv.ee/file_download/830

Treatment of tide gauge time series and marine GNSS measurements for vertical land motion with relevance to the implementation of the Baltic Sea chart datum 2000

Varbla, Sander; Ågren, Jonas; **Ellmann, Artu;** Poutanen, Markku Remote sensing 2022 / art. 920, 24 p. : ill

<https://doi.org/10.3390/rs14040920> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ujednolicone morskie mapy grawimetryczne południowego i wschodniego Bałtyku dla współczesnych zastosowań 3D w geodezji morskiej, geologii i nawigacji (BalMarGrav)

Wilde-Piorko, Monika; Bauer, Tobias; Bilker-Koivula, Mirjam; Dykowski, Przemysław; **Ellmann, Artu; Varbla, Sander** I kongres geoinformacyjny : X ogólnopolskie sympozjum geoinformacyjne : „Współczesne technologie geoinformacyjne w modelowaniu przestrzeni” Kraków, 25 – 27 X 2023 : streszczenia referatów 2023 / 2 p https://kongres-geo.pl/application/files/3316/9822/3649/ksiega_abstraktow_v03.pdf

Utilising airborne laser scanning and geoid model for examining marine processes

Varbla, Sander; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille Abstracts : [BSSC 2019] 2019 / p. 166
https://www.su.se/polopoly_fs/1.446756.1566224624!/menu/standard/file/abstracts_A5_ny.pdf

Utilizing airborne laser scanning and geoid model for near-coast improvements in sea surface height and marine dynamics

Varbla, Sander; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille Journal of coastal research 2020 / p. 1339-1343
<https://doi.org/10.2112/SI95-257.1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Validation of marine geoid models by utilizing hydrodynamic model and shipborne GNSS profiles

Varbla, Sander; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille Marine geodesy 2020 / p. 134-162
<https://doi.org/10.1080/01490419.2019.1701153> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ühe geodeesiaudengi kirev konverentsiaasta

Varbla, Sander Geodeet 2017 / lk. 96-99 : fot http://www.ester.ee/record=b1072198*est