

## LIST OF PUBLICATIONS

### BOOKS AND BOOK CHAPTERS

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7. Sideris, M.G. 2021. Height Systems, Vertical Datums and their Unification. In: Gupta H.K. (ed.) *Encyclopedia of Solid Earth Geophysics*, pp. 749-757. Encyclopedia of Earth Sciences Series. Springer, Cham. [https://doi.org/10.1007/978-3-030-58631-7\\_286](https://doi.org/10.1007/978-3-030-58631-7_286). **Invited**.
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## NON-REFEREED CONTRIBUTIONS

### PRESENTATIONS AT CONFERENCES WITHOUT, OR NOT IN, PROCEEDINGS

253. Piretzidis, D., Kotsakis, C., Mertikas, S.P. and M.G. Sideris. 2022. Spatio-spectral characteristics of polynomial covariance functions on the sphere. Poster presented at the X Hotine-Marussi Symposium, Milan, Italy, June 13-17.
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251. Sideris, M.G. and F. Sansò. 2022. The equivalence of the linearized original and 'Helmertised' geodetic boundary value problems of Stokes and Molodensky. **Invited paper** presented at the X Hotine-Marussi Symposium, Milan, Italy, June 13-17.
250. Jiang, Y., Gao, Y. and M.G. Sideris. 2020. Real-time earthquake hazard assessment based on high-rate GNSS PPPAR. Poster presented at the 2020 EGU General Assembly. Online, May 4-8, 2020.
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248. Sideris, M.G. 2019. Geoscience applications of satellite Earth observations. **Keynote address** at the 2019 Annual Meeting of the Mexican Geophysical Union, Puerto Vallarta, Mexico, Oct. 27 - Nov. 1.
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246. Kuczynska-Siehien, J., Piretzidis, D. and M.G. Sideris. 2019. Analysis of hydrology signals over Vistula and Oder basins using GRACE-derived terrestrial water storage and precipitation data. Poster presented at Symposium G03 – Time-Variable Gravity Field, 27<sup>th</sup> IUGG General Assembly, Montreal, Quebec, July 8-18.
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232. Akbari, M. and M.G. Sideris. 2018. Determination of lake and river level variations in Canada from satellite altimetry. Poster presented at the Gravity, Geoid and Height Systems 2 Symposium, Copenhagen, Denmark, September 17-21, 2018.
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229. Sideris, M.G. 2018. Earth Observation Applications and Challenges – The Geosciences/IUGG Perspective. **Invited presentation** presented at the 2018 GEO Symposium, Geneva, Switzerland, June 11-12, 2018.
228. Sideris, M.G. 2018. Satellite Earth Observation and Geosciences - The IUGG Perspective. **Keynote address** at the International Review Workshop on Altimetry Calibration/Validation and Applications, Chania, Crete, Greece, April 23-26, 2018.
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207. Piretzidis, D., Rangelova, E. and M.G. Sideris. 2016. Spatio-temporal analysis of GRACE models using Principal Component Analysis: filtering and hydrological signal extraction. Presented at the 50th CMOS Congress & joint CGU Annual Meeting, 29 May - 2 June 2016, Fredericton, Canada.
206. Gruber, T., Rummel, R., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Ihde, J., Liebsch, G., Rülke, A., Gerlach, C. and R. Haagmans. 2015. Scientific roadmap towards height system unification with GOCE. Paper presented at the 26<sup>th</sup> IUGG General Assembly, Prague, Czech Republic, June 22-July 2.
205. Tsalis, I., Piretzidis, D., Marshall, S. and M.G. Sideris. 2015. Glacier mass variations via filtered and leakage-reduced GRACE solutions evaluated by in-situ data in the Canadian Arctic. Paper presented at the 26<sup>th</sup> IUGG General Assembly, Prague, Czech Republic, June 22-July 2.
204. Sideris, M.G., Amjadiparvar, B. and E. Rangelova. 2015. Study of vertical datum unification in North America. Paper presented at the 26<sup>th</sup> IUGG General Assembly, Prague, Czech Republic, June 22-July 2.
203. Piretzidis, D., Tsalis, I., Rangelova, E. and M.G. Sideris. 2015. Evaluation of land hydrology derived from filtered GRACE satellite data in North America. Poster presented at the 26<sup>th</sup> IUGG General Assembly, Prague, Czech Republic, June 22-July 2.
202. Kabirzadeh, H., Sideris, M.G. and J.W. Kim. 2015. Joint inversion modeling of geological CO<sub>2</sub> storage using time lapse microgravity and ground deformation. Poster presented at the 26<sup>th</sup> IUGG General Assembly, Prague, Czech Republic, June 22-July 2.
201. Piretzidis, D., Rangelova, E.V. and M.G. Sideris. 2015. Land hydrology monitoring in North America via GRACE and hydrology models: A comparison study. Paper presented at the Joint CGU-AGU-GAC-MAC Assembly, Montreal, Quebec, May 3-7, 2015.
200. Kim, J.W., Neumeyer, J., Henton, J.A., Chae, B.G., Kabirzadeh, H., Sideris, M.G., Woo, I., Kao, R. and J. Choi. 2015. Microgravity effects of earthquakes in the Cascadia subduction zone. **Invited** paper presented at the Joint CGU-AGU-GAC-MAC Assembly, Montreal, Quebec, May 3-7, 2015.
199. Mokhtari, E., Elhabiby, M.M. and M.G. Sideris. 2015. Wavelet spectral techniques for error mitigation of superconductive angular accelerometer output. Paper presented at the Joint CGU-AGU-GAC-MAC Assembly, Montreal, Quebec, May 3-7, 2015.

198. Tsalis, I., Piretzidis, D., Rangelova, E.V. and M.G. Sideris. 2015. Ice mass loss monitoring in the Canadian Arctic: A study on the filtering methods with Release-05 GRACE data. Paper presented at the Joint CGU-AGU-GAC-MAC Assembly, Montreal, Quebec, May 3-7, 2015.
197. Kabirzadeh, H., Kim, J.W. and M.G. Sideris. 2015. CO<sub>2</sub> reservoir joint modeling using time lapse microgravimetry and ground deformation. Poster presented at the Joint CGU-AGU-GAC-MAC Assembly, Montreal, Quebec, May 3-7, 2015.
196. Gruber, T., Rummel, R., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Ihde, J., Liebsch, G., Rülke, A. and C. Gerlach. 2015. Scientific roadmap towards height system unification with GOCE. Paper presented at 2015 EGU General Assembly, Vienna, Austria, April 12-17.
195. Rummel, R., Gruber, T., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Ihde, J., Liebsch, G., Rülke, A., Gerlach, C. and R. Haagmans. 2015. Unified height systems after GOCE. Paper presented at 2015 EGU General Assembly, Vienna, Austria, April 12-17.
194. Amjadiparvar, B. and M.G. Sideris. 2015. Assessment of the suitability of GOCE-based geoid models for the unification of the North American vertical datums. Poster presented at 2015 EGU General Assembly, Vienna, Austria, April 12-17.
193. Sideris, M.G. and B. Amjadiparvar. 2015. Height System Unification in North America. Paper presented at 2015 EGU General Assembly, Vienna, Austria, April 12-17.
192. Sideris, M.G. 2015. Building on the Geoid to Harmonize Height Systems Globally. **Invited paper** presented at the AAAS 2015 Annual Meeting, San Jose, CA, February 12-16.
191. Amjadiparvar, B., Rangelova, E., Sideris, M.G. and M. Véronneau. 2014. Evaluation of the Recent GOCE-based Global Geopotential Models in North America. Paper presented at the 2014 AGU Fall Meeting, San Francisco, December 15-19.
190. Gruber, T., Rummel, R., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Ihde, J., Liebsch, G., Rülke, A. and C. Gerlach. 2014. Scientific Roadmap towards Height System Unification with GOCE. Paper presented at the 5<sup>th</sup> International GOCE User Workshop, UNESCO, Paris, Nov. 25-28.
189. Li, H.B., Sideris, M.G., Li, D.M. and J.H. Han. 2014. Review and future prospects of inertial gravimetry and gradiometry systems. Presented at the 3rd International Gravity Field Service (IGFS) General Assembly, Shanghai, China, June 30 - July 6.
188. Gruber, T., Rummel, R., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Ihde, J., Liebsch, G., Schäfer, U., Rülke, A., Gerlach, C. and R. Haagmans. 2014. Scientific Roadmap towards Height System Unification with GOCE. Presented at the 3rd International Gravity Field Service (IGFS) General Assembly, Shanghai, China, June 30 - July 6.
187. Sideris, M.G. 2014. The Global Geodetic Observing System and its Applications. **Invited** presentation at the Joint Conference on Future Earth, Disaster Risk and Sustainability. Azerbaijan National Academy of Sciences, Baku, Azerbaijan, June 10.
186. Tsalis, I., Amjadiparvar, B., Kotsakis, C. and M.G. Sideris. 2014. On the Consistent Combination of Geometric and Helmert Orthometric Heights. Paper presented at the 2014 CGU Annual Scientific Meeting, Banff, Alberta, May 4-7.
185. Mokhtari, E., Elhabiby, M., Sideris, M.G. and N. El-Sheimy. 2014. Error Analysis of Auxiliary Sensors for Compensating the Errors of Superconductive Angular Gradiometer Output. Paper presented at the 2014 CGU Annual Scientific Meeting, Banff, Alberta, May 4-7.
184. Rangelova, E., Amjadiparvar, B. and M.G. Sideris. 2014. Results on Height System Unification in North America by means of GOCE. Paper presented at the 2014 CGU Annual Scientific Meeting, Banff, Alberta, May 4-7.
183. Amjadiparvar, B., Rangelova, E. and M.G. Sideris. 2014. A high-resolution GOCE-Based Tailored Geoid Model for North America. Paper presented at the 2014 CGU Annual Scientific Meeting, Banff, Alberta, May 4-7.
182. Gruber, T., Rummel, R., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Ihde, J., Liebsch, G., Schäfer, U., Rülke, A., Gerlach, C. and R. Haagmans. 2014. Scientific Roadmap towards Height System Unification with GOCE. Poster presented at the 2014 EGU General Assembly, Vienna, Austria, April 27 – May 2.
181. Rangelova, E., Amjadiparvar, B., Sideris, M.G. and Ch. Gerlach. 2014. Sensitivity of vertical datum offsets to height data uncertainties. Poster presented at the 2014 EGU General Assembly, Vienna, Austria, April 27 – May 2.

180. Gruber, T., Rummel, R., Ihde, J., Liebsch, G., Schäfer, U., Rülke, A., Sideris, M.G., Rangelova, E., Woodworth, P., Hughes, C., Gerlach, C. and R. Haagmans. 2013. Height System Unification with GOCE - Overview and Selected Results. 2013. European Space Agency Living Planet Symposium, Edinburgh, 9-13 Sept.
179. Kabirzadeh, H., Kao, R., Kim, J.W. and M.G. Sideris. 2013. Portability test of iGrav<sup>TM</sup> superconducting gravimeter for the application in CO<sub>2</sub> monitoring. Poster presented at the 2013 IAG Scientific Assembly, Potsdam, Germany, Sept. 1-6.
178. Amjadiparvar, B., Rangelova, E. and M.G. Sideris. 2013. Unification of vertical datums using GOCE, local gravity and topography information – Application in North America. Poster presented at the 2013 IAG Scientific Assembly, Potsdam, Germany, Sept. 1-6.
177. Rangelova, E., van der Wal, W., Boergens, E., Tang, F. and M.G. Sideris. 2013. Long-term time changes of the North American  $W_0$  potential. Paper presented at the 2013 IAG Scientific Assembly, Potsdam, Germany, Sept. 1-6.
176. Sanso, F. and M.G. Sideris. 2013. On the “equivalence” between the Helmert Stokes and the Molodensky BVP solutions. **Invited keynote presentation** at the VIII Hotine Marussi Symposium, Rome, Italy, June 17-21.
175. Kabirzadeh, H., Kao, R., Kim, J.W., Neumeyer, J. and M.G. Sideris. 2013. Dynamic monitoring of CO<sub>2</sub> storage using superconducting gravimeters. 1st Joint Scientific Congress of the CMOS, CGU and CWRA, Saskatoon, Saskatchewan, May 26-30
174. Kao, R., Neumeyer, J., Kabirzadeh, H., Kim, J.W., Sideris, M.G., Henton, J. and H. Dragert. 2013. Parallel observations of superconducting and absolute gravimeters in western Canada, 1st Joint Scientific Congress of the CMOS, CGU and CWRA, Saskatoon, Saskatchewan, May 26-30.
173. Sideris, M.G., Rummel, R. and P. Woodworth. 2013. Contributions of GOCE and terrestrial and oceanographic data to height system unification. Paper presented at the AGU Meeting of the Americas, Cancun, Mexico, May 14-17.
172. Amjadiparvar, B., Rangelova, E., Sideris, M.G. and T. Hayden. 2013. The role of local gravity information in the unification of the North American vertical datums. Poster presented at the 2013 EGU General Assembly, Vienna, Austria, April 7-12.
171. Börgens, E., Rangelova, E., Sideris, M.G. and J. Kusche. 2013. Assessment of the capabilities of the tICA and stICA methods for geophysical signal separation in GRACE data. Paper presented at the 2013 EGU General Assembly, Vienna, Austria, April 7-12.
170. Kabirzadeh, H., Kao, R., Sideris, M.G. and J.W. Kim. 2013. Inversion of gravity data using compactness and smoothness constraints. Poster presented at the 2013 EGU General Assembly, Vienna, Austria, April 7-12.
169. Kao, R., Kim, J.W., Kabirzadeh, H., Neumeyer, J. and M.G. Sideris. 2013. Using Superconducting Gravimeter iGrav for detecting small mass change in field measurements (a case study). Poster presented at the 2013 EGU General Assembly, Vienna, Austria, April 7-12.
168. B. Amjadiparvar, Gerlach, C., Rangelova, E., Sideris, M.G. and T. Fecher. 2012. Can GOCE Contribute to the Height Datum Unification? Results in Europe and North America. Paper presented at the International Symposium on Gravity, Geoid and Height Systems 2012 (GGHS2012), Venice, Italy, Oct. 9-12.
167. Ince, E.S., Sideris, M.G., Huang, J. and M. Veronneau. 2012. Assessment of GOCE global gravity field models for the new geoid-based vertical datum in Canada. Poster presented at the International Symposium on Gravity, Geoid and Height Systems 2012 (GGHS2012), Venice, Italy, Oct. 9-12.
166. Boergens, E., Rangelova, E., Sideris, M.G. and J. Kusche. 2012. Testing the capabilities of the ICA, PCA and MSSA methods for signal separation in the GRACE L2 data. Paper presented at the International Symposium on Gravity, Geoid and Height Systems 2012 (GGHS2012), Venice, Italy, Oct. 9-12.
165. Amjadiparvar, B., Sideris, M.G., Rangelova, E. and T. Hayden. 2012. The Effect of Geoid Commission and Omission Errors in the Computation of North American Height Datum Offsets. Poster presented at the AOGS – AGU (WPGM) Joint Assembly<sup>SEP</sup>, Singapore, August 13-17.
164. Tang, F., Sideris, M.G. and Y. Gao. 2012. Coastal Sea Level Trends from Satellite Altimetry and Tide Gauge Data in the Pacific and Atlantic Coasts of Canada from 1993 to 2008. Poster presented at the AOGS – AGU (WPGM) Joint Assembly<sup>SEP</sup>, Singapore, August 13-17.

163. Kao, R., Kabirzadeh, H., Neumeyer, J., Kim, J.W. and M.G. Sideris. 2012. Superconducting Gravity Effect by CO<sub>2</sub> Plume in the Geological Storage. Paper presented at the AOGS – AGU (WPGM) Joint Assembly<sup>[1]</sup>, Singapore, August 13-17.
162. Boergens, E., Rangelova, E. and M.G. Sideris. 2012. Statistical methods for separating geophysical signals in GRACE. Paper presented at the AOGS – AGU (WPGM) Joint Assembly<sup>[1]</sup>, Singapore, August 13-17.
161. Tang, F., Sideris, M.G. and Y. Gao. 2012. Improvement of Ocean Tide Corrections for Satellite Altimetry Data in the West and East Coast of Canada. Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
160. Boergens, E., Rangelova, E. and M.G. Sideris. 2012. The ICA method for separating hydrology signals in GRACE data. Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
159. Amjadiparvar, B., Rangelova, E., Sideris, M.G. and T. Hayden. 2012. Evaluation of the GOCE-based Geoid Models in North America. Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
158. Ince, E.S., Sideris, M.G., Huang, J., Véronneau, M. and S. Pagiatakis. 2012. Assessment of GOCE global gravity field models in Canada. Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
157. Hayden, T., Amjadiparvar, B., Rangelova, E. and M.G. Sideris. 2012. Estimation of vertical datum offsets in North America using GOCE data. Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
156. Rangelova, E. and M.G. Sideris. 2012. How significant is the dynamic component of the North American vertical datum? Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
155. Bolkas, D., Fotopoulos, G., Sideris, M.G. and T. Hayden. 2012. An optimal adjustment strategy for incorporating sea surface topography models in a geoid-based vertical datum. Paper presented at the 2012 CWRA / CGU National Conference. Banff, Alberta, June 5-8.
154. Rummel, R., Gruber, T., Gerlach, C., Hughes, C., Ihde, J., Liebsch, G., Rangelova, E., Sideris, M.G. and P. Woodworth. 2011. GOCE's Impact on World Height System Unification. Poster presented at the Fall 2011 Meeting of the AGU, San Francisco, Dec. 5-9.
153. Amjadiparvar, B., Sideris, M.G., Rangelova, E. and A.A. Ardalan. 2011. Evaluation of the GOCE-Based Global Gravity Field Models in Iran. Poster presented at the Fall 2011 Meeting of the AGU, San Francisco, Dec. 5-9.
152. Sideris, M.G., Rummel, R., Ihde, J., Woodworth, P., Rangelova, E., Gruber, T., Liebsch, G. and C. Hughes. 2011. World Height System Unification and GOCE. Paper presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.
151. Ihde, J., Liebsch, G., Marti, U., Sánchez, L., Schöne, T. and M.G. Sideris. 2011. IAG ICP1.2 Final Results –<sup>[1]</sup> Global Unified Height System:<sup>[1]</sup> An Integration of Gravity and Geometric Reference. Paper presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.
150. Rangelova, E. and M.G. Sideris. 2011. Sensitivity Analysis of the Empirical Orthogonal Functions Used in Identifying Trend Signals in the GRACE L2 Data. Paper presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.
149. Ince, E.S. Sideris, M.G., J. Huang and M. Veronneau. 2011. Assessment of the GOCE-derived Global Models in the Great Lakes and Canadian Rocky Mountains. Poster presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.
148. El Habiby, M. and M.G. Sideris. 2011. A combined conjugate gradient-wavelet approach for the inversion of the Poisson integral. Poster presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.
147. Ali, I., Braun, A. and M.G. Sideris. 2011. Monitoring Coastal Erosion on Galveston Island Using Airborne and Terrestrial LiDAR Scanning. Poster presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.
146. Tang, F., Sideris, M.G. and Y. Gao. 2011. Improvement of Ocean Tide Corrections in the West and East Coasts of Canada by Least-squares Spectrum Analysis. Poster presented at the XXV IUGG General Assembly, Melbourne, Australia, June 28 - July 7, 2011.

145. Ince, E.S. Sideris, M.G., J. Huang and M. Veronneau. 2011. Assessment of the GOCE-derived global models in the Great Lakes and Canadian Rocky Mountains. Paper presented at the 37<sup>th</sup> Annual Meeting of the Canadian Geophysical Union, Banff, Alberta, May 15-18.
144. Rangelova, E., Sideris, M.G. and J.W. Kim. 2010. A study on the capabilities of the multi-channel singular spectrum method for extracting the main water mass anomaly information from GRACE and hydrology models. Poster presented at the 2010 AGU Fall Meeting, San Francisco, CA, Dec. 13-17.
143. Tocho, C., Vergos, G.S. and M.G. Sideris. 2010. Análisis de reducciones gravimétricas y efectos de aliasing para el modelado del geoide en una región continental de Argentina. Poster presented at the 25a. Reunión Científica de Geofísica y Geodesia, Córdoba, Argentina, Nov. 2-5.
142. Sideris, M.G. 2010. On the definition and realization of an ITRF-compatible global vertical reference system. **Invited paper** presented at the 2010 AGU Fall Meeting, San Francisco, CA, Dec. 13-17.
141. Ihde, J., Sideris M.G. and L. Sánchez. 2010. Concepts for the Realization of a World Height System – Theme 1 of the Global Geodetic Observing System (GGOS). **Invited paper** presented at REFAG2010: International Symposium on Reference Frames for Applications in Geosciences, Marne la Vallée, Paris, France, Oct. 4-8.
140. Sideris, M.G. 2010. Earth Monitoring Applications of IAG's Global Geodetic Observing System (GGOS). **Invited keynote address**, 2010 Fall Annual Joint Conference of the Geological Societies of Korea, Gyeongju, Korea, October 27-30.
139. Tocho, C., Vergos, G.S. and M.G. Sideris. 2010. Investigation of topographic reductions and aliasing effects on gravity and the geoid over continental Argentina. Poster presented at the 2010 AGU Meeting of the Americas, Foz do Iguacu, Brazil, Aug. 8-12.
138. Sideris, M.G. 2010. World height system. Paper presented at the Global Geodetic Observing System (GGOS) Workshop, Joint 44<sup>th</sup> CMOS Congress and 36<sup>th</sup> CGU Annual Meeting, Ottawa, 31 May – 4 June.
137. Ince, E.S., Sideris, M.G., Huang, J. and M. Véronneau. 2010. Towards a Geoid-based Height System in the Great Lakes Region. Paper presented at the Joint 44<sup>th</sup> CMOS Congress and 36<sup>th</sup> CGU Annual Meeting, Ottawa, 31 May – 4 June.
136. Sideris, M.G. 2010. Global Geodetic Observing System and satellite gravimetry contributions to Earth monitoring. **Invited plenary talk**, Joint 44<sup>th</sup> CMOS Congress and 36<sup>th</sup> CGU Annual Meeting, Ottawa, 31 May – 4 June.
135. Sideris, G.G. 2009. Global Geodetic Observing System and its Applications to Earth Monitoring. **Invited keynote address**, International Conference UACEG2009: Science & Practice, Sofia, Bulgaria, Oct. 29-31.
134. Sideris, M.G., Rizos, C. and H. Drewes. 2009. Future role of the Global Geodetic Observing System as the flagship of the International Association of Geodesy. Paper presented at Geodesy for Planet Earth: 2009 IAG Scientific Assembly, Buenos Aires, Argentina, Aug. 31-Sept. 4.
133. Rangelova, E., van der Wal, W., Kim, J.W. and M.G. Sideris. 2009. Analyzing weekly GRACE and GLDAS water mass anomaly information by means of the singular spectrum analysis approach. Poster presented at Geodesy for Planet Earth: 2009 IAG Scientific Assembly, Buenos Aires, Argentina, Aug. 31-Sept. 4.
132. van der Wal, W., Wu, P. and M.G. Sideris. 2009. GRACE constraints on ice models in North America. Paper presented at the Joint DynaQlim/GGOS Workshop on Understanding Glacial Isostatic Adjustment, Espoo, Finland, June 23-26.
131. Rangelova, E. and M.G. Sideris. 2009. Spaceborne gravimetry contributions to Earth monitoring. Paper presented at the 11<sup>th</sup> GEOIDE Annual Scientific Conference, Vancouver, June 27-29.
130. van der Wal, W., Wu, P., Sideris, M.G. and H. Wang. 2009. Constraints of GRACE on the Ice Model and Mantle Rheology in Glacial Isostatic Adjustment Modeling in North-America. Poster presented at the 2009 Joint Assembly of the AGU, CGU, GS, GAC, IAH-CNC, MAC, MSA, SEG, Toronto, May 24-27.
129. Ince, E.S., Sideris, M.G. and E. Rangelova. 2009. Deriving long-term sea level variations at tide gauge stations in Atlantic North America. Poster presented at the 2009 Joint Assembly of the AGU, CGU, GS, GAC, IAH-CNC, MAC, MSA, SEG, Toronto, May 24-27.
128. Rangelova, E. and M.G. Sideris. 2009. A Dynamic Geoid-based Vertical Datum for Canada: Recent Models Developments and Prospective Implementation. **Invited presentation**, 2009 Joint Assembly of the AGU, CGU, GS, GAC, IAH-CNC, MAC, MSA, SEG, Toronto, May 24-27.

127. Tang, F., Sideris, M.G. and Y. Gao. 2009. A Preliminary Analysis of Nonlinear Shallow Water Tides for the West Shelf Region of Canada by Topex/Poseidon and Jason-1 Data. Paper presented at the 2009 Joint Assembly of the AGU, CGU, GS, GAC, IAH-CNC, MAC, MSA, SEG, Toronto, May 24-27.
126. Elhabiby, M., Sideris, M.G. and N. El-Sheimy. 2009. The Role of Multi-Dimensional Wavelet Approximation in Geodetic Applications: De-Noising, Compression and Analysis Tool. Paper presented at the 2009 Joint Assembly of the AGU, CGU, GS, GAC, IAH-CNC, MAC, MSA, SEG, Toronto, May 24-27.
125. van der Wal, W., Wu, P., Wang, H. and M.G. Sideris. 2009. Sea level curves, geoid rate and uplift rate from composite rheology in glacial isostatic adjustment modeling. Paper presented at the 2009 EGU General Assembly, Vienna, Austria, April 19-24, 2009.
124. Sideris, M.G. 2008. Goals and Applications of IAG's Global Geodetic Observing System (GGOS). **Invited presentation**, Annual Scientific Meeting of the Turkish National Geodetic Commission, Istanbul, November 19-21.
123. Sideris, M.G. and E. Rangelova. 2008. Study of geoid and surface deformation rates in anticipation of a geoid-based height datum in North America. **Invited presentation**, Annual Scientific Meeting of the Turkish National Geodetic Commission, Istanbul, November 19-21.
122. Elhabiby, M., Xu, C., Weigelt, M. and M.G. Sideris. 2008. Global gravity field pattern recognition on the torus using first generation wavelets. Poster presented at the International Symposium on Gravity, Geoid and Earth Observation, Chania, Greece, June 23-27.
121. Rangelova, E. and M.G. Sideris. 2008. On the use of multi-channel singular spectrum analysis for modeling GRACE-derived mass variability. Paper presented at the 34th Annual Meeting of the Canadian Geophysical Union. Banff, Alberta, May 11-14.
120. van der Wal, W., Braun, A., Wu, P. and M.G. Sideris. 2008. Prediction of decadal elevation and slope changes in Canada. Paper presented at the 34th Annual Meeting of the Canadian Geophysical Union. Banff, Alberta, May 11-14.
119. Ali, I., Braun, A. and M.G. Sideris. 2008. Using TOPEX and ICESat altimetry for monitoring sea level change in Atlantic Canada. Paper presented at the 34th Annual Meeting of the Canadian Geophysical Union. Banff, Alberta, May 11-14.
118. van der Wal, W., Sideris, M.G. and P. Wu. 2008. Observing glacial isostatic adjustment with satellite data. Paper presented at the 34th Annual Meeting of the Canadian Geophysical Union. Banff, Alberta, May 11-14.
117. Liakopoulos, A.G., van der Wal, W., Zhang, Z., Blais, J.A.R. and M.G. Sideris. 2008. Evaluation of some noise reducing filters for GRACE gravity data. Poster presented at the 34th Annual Meeting of the Canadian Geophysical Union. Banff, Alberta, May 11-14.
116. Elhabiby, M.M., Xu, C. and M.G. Sideris. 2008. Wavelet-torus algorithm for global gravity field analysis. Paper presented at the 34th Annual Meeting of the Canadian Geophysical Union. Banff, Alberta, May 11-14.
115. Elhabiby, M.M., Xu, C. and M.G. Sideris. 2008. Studies on the potential of using a combined wavelet-torus algorithm for global gravity field analysis. Paper presented at the 2008 EGU General Assembly, Vienna, Austria, April 13-18.
114. Rangelova, E., Fotopoulos, G. and M.G. Sideris. 2007. On the combined use of GRACE and geodetic observations for vertical motion in the Great Lakes region. Poster presented at the Fall 2007 Meeting of the AGU, San Francisco, CA, Dec. 10-14.
113. Xu, C., Sideris, M.G. and N. Sneeuw. 2007. Feasibility of gravity field recovery from GRACE line-of-sight (LOS) gradiometry observations using the torus approach. Poster presented at the Fall 2007 Meeting of the AGU, San Francisco, CA, Dec. 10-14.
112. van der Wal, W., Wu, P., Wang, H., Sideris, M.G. and H.H.A. Schotman. 2007. Using GRACE derived gravity rates to constrain postglacial rebound in North America. Paper presented at the 2007 IUGG General Assembly, Perugia, Italy, July 2-13.
111. Erol, B., Klees, R., Sideris, M.G. and R.N. Celik. 2007. Combining GPS, Levelling and Geoid Data using Estimated Stochastic Parameters for Vertical Control in North-West of Turkey. Poster presented at the 2007 IUGG General Assembly, Perugia, Italy, July 2-13.
110. Rangelova E. and M.G. Sideris. 2007. Combined vertical motion model - A case study for the Great Lakes. Poster presented at the 2007 IUGG General Assembly, Perugia, Italy, July 2-13.

109. Xu, C. and M.G. Sideris. 2007. Evaluation of the Regularization Methods Used in the Torus-Based Semi-Analytical Approach for Gravity Field Recovery. Poster presented at the 2007 IUGG General Assembly, Perugia, Italy, July 2-13.
108. Tocho, C. and M.G. Sideris. 2007. Estimation of a new high-accuracy marine geoid model offshore Argentina using CHAMP and GRACE-derived geopotential models. Poster presented at the 2007 IUGG General Assembly, Perugia, Italy, July 2-13.
107. van der Wal, W., Sideris, M.G. and P. Wu. 2007. Detecting Large Scale Mass Changes in North-America from Space. Poster presented at the 9<sup>th</sup> GEOIDE Annual Scientific Conference, Halifax, Nova Scotia, June 6-8.
106. ElHabiby, M.M. and M.G. Sideris. 2007. The use of Wavelet Transform in Gravity Field Applications. Poster presented at the 9<sup>th</sup> GEOIDE Annual Scientific Conference, Halifax, Nova Scotia, June 6-8.
105. Xu, C., Sideris, M.G. and N. Sneeuw. 2007. Spherical Harmonic Analysis and Synthesis in Satellite Gravity Gradiometry Using the Torus Approach. Poster presented at the 2007 Joint CMOS, CGU and AMS Congress, St. John's, Newfoundland and Labrador, May 28 – June 1.
104. Elhabiby, M. and M.G. Sideris. 2007. Wavelets as a regularization tool – A combined wavelet and conjugate gradient method for the inversion of geodetic integrals. Paper presented at the 2007 Joint CMOS, CGU and AMS Congress, St. John's, Newfoundland and Labrador, May 28 – June 1.
103. Elhabiby, M. and M.G. Sideris. 2007. Wavelet Representation of the Deflection-Geoid and Inverse Vening Meinesz Integrals. Paper presented at the 2007 Joint CMOS, CGU and AMS Congress, St. John's, Newfoundland and Labrador, May 28 – June 1.
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50. El Habiby, M. and M.G. Sideris. 2004. Linear versus non-linear least squares adjustment with emphasis on the 3-D coordinates transformation problem. Paper presented at the 2004 Joint Assembly of the CGU, AGU, SEG and EEGS. Montreal, Quebec, May 16-21.
49. N. Sneeuw and M.G. Sideris. 2004. Current and future GOCE activities in Canada. Poster presented at the 2<sup>nd</sup> International GOCE User Workshop, Frascati, Italy, March 8-10.
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43. Tocho, C., Sideris, M.G. and G. Font. 2002. Different topographic reduction methods in practical gravimetric geoid determination. Presented at the Argentinean Association of Geodesists and Geophysicists Annual Meeting, Rosario, Santa Fe, Argentina, Sept. 23-27.
42. Vergos, G.S., Sideris, M.G. and I.N. Tziavos. 2002. High-resolution and high accuracy marine geoid estimation in the Aegean sea using satellite and shipborne data. Poster presented at 3<sup>rd</sup> Meeting of the International Gravity and Geoid Commission, Thessaloniki, Greece, Aug. 26-30.
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36. Grebenitcharsky, R. and M.G. Sideris. 2001. A Comparison of different solution methods for altimetry-gravimetry boundary value problems using smoothing conditions along the coastline. Paper presented at 2001 IAG Scientific Assembly, Budapest, Hungary, Sept. 2-7.
35. Bajracharya, S., Kotsakis, C. and M.G. Sideris. 2001. Geoid determination using different gravity reduction techniques. Paper presented at 2001 IAG Scientific Assembly, Budapest, Hungary, Sept. 2-7.

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31. Grebenitcharsky, R. and M.G. Sideris. 2001. An analysis of altimetry-gravimetry boundary value problems in coastal regions. Presented at the 27<sup>th</sup> Annual Meeting of the Canadian Geophysical Union, Ottawa, Canada, May 14-17.
30. Grebenitcharsky, R., Blais, J.A.R. and M.G. Sideris. 2001. Windowing procedures for power spectral density determination in spectral processing of altimetry dat. Presented at the 27<sup>th</sup> Annual Meeting of the Canadian Geophysical Union, Ottawa, Canada, May 14-17.
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28. Bayoud, F.A. and M.G. Sideris. 2001. A simulation study for optimally combining airborne with ground gravity data. Presented at the XXVI General Assembly of the European Geophysical Union, Nice, France, March 25-30
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23. Sideris, M.G., Schwarz, K.P. and S. Pagiatakis. 2000. The geoid – Its definition, computation, and use in science and engineering. Second Annual Conference of the GEOIDE NCE, Calgary, May 25-26.
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21. Rubinstein, I.G., Sideris, M.G., Buckley, J., Collins, M., Langille, A., Tocco, M.L., Matar, R.A. 2000. Spaceborne observations of oceans. Second Annual Conference of the GEOIDE NCE, Calgary, May 25-26.
20. Esan, O. and M.G. Sideris. 1999. On the maximum degree of spherical harmonic expansion versus integration cap size for precise geoid determination. CGU Annual Meeting, Banff, May 9 -13, 1999.
19. Kotsakis, C. and M.G. Sideris. 1999. Optimal Combination of Ellipsoidal, Orthometric and Geoidal Heights for Levelling Purposes. Annual AGU Spring meeting, Boston, MA, June 1-4.
19. Kotsakis, C. and M.G. Sideris. 1999. The high-frequency structure of the gravity field in Canada. CGU Annual Meeting, Banff, May 9 -13, 1999.
17. Sideris, M.G. 1999. Recent Results on Static and Kinematic GPS/Geoid Leveling in Canada. **Invited paper**. Annual AGU Spring meeting, Boston, MA, June 1-4.
16. Andritsanos, V.D., Sideris, M.G. and I.N. Tziavos. 1999. Sea surface topography estimation by a generalised multiple input/output method. IUGG General Assembly, Birmingham, July 18–30.
15. Featherstone, W.E., Kirby, J.F., Kearsley, A.H.W., Gilliland, J.R., Johnston, G.M., Zhang, K.F., Forsberg, R. and M.G. Sideris. 1999. The new gravimetric geoid of Australia: Terrestrial data treatment and computations using the 1D-FFT and a deterministically modified kernel. IUGG General Assembly, Birmingham, July 18 – 30.

14. Fei, Z.L and M.G. Sideris. 1999. The Geoid Taking the Flattening of the Ellipsoid into Account. IUGG General Assembly, Birmingham, July 18 – 30.
13. Sideris, M., P. Vaníek, J. Huang, and I.N. Tziavos 1999. Comparison of downward continuation techniques of terrestrial gravity anomalies, IUGG General Assembly, Birmingham, July 18 – 30.
12. Ardalan, A., Grafarend, E. and M.G. Sideris. 1998. The spherical fixed-free two-boundary value problem for geoid determination. Paper presented at the *IV Hotine-Marussi Symposium on Mathematical Geodesy*, Trento, Italy, Sept. 14-17.
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10. Sideris, M.G. 1998. Precise geoid determination in support of levelling by GPS. Presented at the *Spring Meeting of the American Geophysical Union*, Boston, Massachusetts.
9. Li, J. and M.G. Sideris. 1996. A world height datum by jointly using DGPS and altimetry techniques. Presented at the *7th Pacific Congress on Marine Science and Technology (PACON96)*, Honolulu, Hawaii, June 17-22.
8. Wu, L. and M.G. Sideris. 1996. Spectral methods for airborne vector gravimetry data processing. Presented at the *1996 Meeting of the Canadian Geophysical Union*, Banff, Alberta, May 5-9.
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8. Li, Y.C. and M.G. Sideris. 1993. Refined spectral terrain corrections for geoid determination. Presented at the *1993 Meeting of the Canadian Geophysical Union*, Banff, Alberta, May 9-11.
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5. Sideris, M.G., Vanícek, P. and A. Mainville. 1992. The Canadian Geoid Committee and the Geoid in Canada. Paper presented at the *Joint Spring '92 Meeting of the American Geophysical Union and the Canadian Geophysical Union*, Montreal, Quebec, May 12-16.
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1. Schwarz, K.P., M.G. Sideris and R. Forsberg. 1985. Precise geoid heights and their use in GPS-interferometry. Paper presented at the *78th Annual Meeting of the Canadian Institute of Surveying*, Edmonton, Alberta, May 28-31.

## SCIENTIFIC SERIES AND PUBLISHED RESEARCH REPORTS

20. Gruber, T., Panet, I., et al. 2016. e.motion<sup>2</sup> Earth System Mass Transport Mission<sup>2</sup>. Proposal to ESA for Earth Explorer Mission EE-9. 124 pp.
19. Rangelova, E. and M.G. Sideris. 2010. On the use of empirical orthogonal base functions in the analysis of GRACE-observed mass changes. **Invited paper**. In *The Apple of Knowledge – In Honour of Prof. Emeritus D.E. Arabelos*. Ziti Editions, Thessaloniki, p. 204-216.
18. Sideris, M.G. 2003. President's report of IAG Section III: Determination of the gravity field, for the period 1999-2003. In *Travaux of the IAG Vol. 32, 1999-2003*, pp. 143-145, Copenhagen.
17. Sideris, M.G. and Q. Liu. 2003. A Wavelet Compression Method for Computing Terrain Corrections. **Invited paper**. In *Honoring the Academic Life of Petr Vanícek*, UNB Department of Geodesy and Geomatics Engineering Technical Report No 218 (Edited by M. Santos), pp. 111-131.

16. Sideris, M.G., Fei, Z., and J.A.R. Blais. 1999. Ellipsoidal corrections for the inverse Hotine/Stokes formulas. **Invited paper**. In "Quo vadis geodesia ... ? Festschrift for Erik W. Grafarend." *Report Nr. 1999.6-2 of the Department of Geodetic Science of the University of Stuttgart*, Germany, pp. 453-466.
15. Fotopoulos, G., Kotsakis, C. and M.G. Sideris. 1999. Evaluation of Geoid Models and Their Use in Combined GPS/Geoid/Geoid Height Network Adjustments. *Report Nr. 1999.4 of the Department of Geodetic Science of the University of Stuttgart*, Germany.
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