

Mehdi Eshagh

List of Publications by Year in descending order

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112
papers

990
citations

516710

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113
times ranked

327
citing authors

#	ARTICLE	IF	CITATIONS
1	The effect of spatial truncation error on integral inversion of satellite gravity gradiometry data. <i>Advances in Space Research</i> , 2011, 47, 1238-1247.	2.6	41
2	Alternative expressions for gravity gradients in local north-oriented frame and tensor spherical harmonics. <i>Acta Geophysica</i> , 2010, 58, 215-243.	2.0	37
3	Non-singular expressions for the vector and the gradient tensor of gravitation in a geocentric spherical frame. <i>Computers and Geosciences</i> , 2008, 34, 1762-1768.	4.2	34
4	Martian sub-crustal stress from gravity and topographic models. <i>Earth and Planetary Science Letters</i> , 2015, 425, 84-92.	4.4	31
5	A combined global Moho model based on seismic and gravimetric data. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2011, 46, 25-38.	0.4	25
6	Determination of gravity anomaly at sea level from inversion of satellite gravity gradiometric data. <i>Journal of Geodynamics</i> , 2011, 51, 366-377.	1.6	24
7	On integral approach to regional gravity field modelling from satellite gradiometric data. <i>Acta Geophysica</i> , 2011, 59, 29-54.	2.0	24
8	An approach to Moho discontinuity recovery from on-orbit GOCE data with application over Indo-Pak region. <i>Tectonophysics</i> , 2016, 690, 253-262.	2.2	23
9	Topographic and atmospheric effects on goce gradiometric data in a local north-oriented frame: A case study in Fennoscandia and Iran. <i>Studia Geophysica Et Geodaetica</i> , 2009, 53, 61-80.	0.5	22
10	Atmospheric effects on satellite gravity gradiometry data. <i>Journal of Geodynamics</i> , 2009, 47, 9-19.	1.6	21
11	A theory on geoid modelling by spectral combination of data from satellite gravity gradiometry, terrestrial gravity and an Earth Gravitational Model. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2012, 47, 13-28.	0.4	21
12	A theoretical discussion on Vening Meinesz-Moritz inverse problem of isostasy. <i>Geophysical Journal International</i> , 2016, 207, 1420-1431.	2.4	20
13	Inversion of satellite gradiometry data using statistically modified integral formulas for local gravity field recovery. <i>Advances in Space Research</i> , 2011, 47, 74-85.	2.6	19
14	Comparison of two approaches for considering laterally varying density in topographic effect on satellite gravity gradiometric data. <i>Acta Geophysica</i> , 2010, 58, 661-686.	2.0	18
15	Moho Density Contrast in Central Eurasia from GOCE Gravity Gradients. <i>Remote Sensing</i> , 2016, 8, 418.	4.0	18
16	Sub-crustal stress determined using gravity and crust structure models. <i>Computational Geosciences</i> , 2015, 19, 115-125.	2.4	17
17	A strategy for optimum designing of the geodetic networks from the cost, reliability and precision views. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2007, 42, 297-308.	0.4	16
18	On regularized time varying gravity field models based on grace data and their comparison with hydrological models. <i>Acta Geophysica</i> , 2013, 61, 1-17.	2.0	16

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19	From Satellite Gradiometry Data to Subcrustal Stress Due to Mantle Convection. <i>Pure and Applied Geophysics</i> , 2014, 171, 2391-2406.	1.9	16
20	A new approach for generating optimal GLDAS hydrological products and uncertainties. <i>Science of the Total Environment</i> , 2020, 730, 138932.	8.0	16
21	Software for generating gravity gradients using a geopotential model based on an irregular semivectorization algorithm. <i>Computers and Geosciences</i> , 2012, 39, 152-160.	4.2	15
22	The Modified Best Quadratic Unbiased Non-Negative Estimator (MBQUNE) of variance components. <i>Studia Geophysica Et Geodaetica</i> , 2008, 52, 305-320.	0.5	14
23	Semi-vectorization: an efficient technique for synthesis and analysis of gravity gradiometry data. <i>Earth Science Informatics</i> , 2010, 3, 149-158.	3.2	14
24	On the approximations in formulation of the Vening Meineszâ€™Moritz theory of isostasy. <i>Geophysical Journal International</i> , 2017, 210, 500-508.	2.4	14
25	Spatially Restricted Integrals in Gradiometric Boundary Value Problems. <i>Artificial Satellites</i> , 2009, 44, 131-148.	0.7	14
26	Least-squares modification of extended Stokesâ€™ formula and its second-order radial derivative for validation of satellite gravity gradiometry data. <i>Journal of Geodynamics</i> , 2010, 49, 92-104.	1.6	13
27	Spectral Combination of Spherical Gradiometric Boundary-Value Problems: A Theoretical Study. <i>Pure and Applied Geophysics</i> , 2012, 169, 2201-2215.	1.9	13
28	On the relation between Moho and sub-crustal stress induced by mantle convection. <i>Journal of Geophysics and Engineering</i> , 2015, 12, 1-11.	1.4	13
29	The effect of lateral density variations of crustal and topographic masses on GOCE gradiometric data â€” A study in Iran and Fennoscandia. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2009, 44, 399-418.	0.4	12
30	Semi-stochastic modification of second-order radial derivative of Abelâ€™Poissonâ€™s formula for validating satellite gravity gradiometry data. <i>Advances in Space Research</i> , 2011, 47, 757-767.	2.6	12
31	Crustal thickness recovery using an isostatic model and GOCE data. <i>Earth, Planets and Space</i> , 2012, 64, 1053-1057.	2.5	12
32	Isostatic GOCE Moho model for Iran. <i>Journal of Asian Earth Sciences</i> , 2017, 138, 12-24.	2.3	12
33	Error calibration of quasi-geoidal, normal and ellipsoidal heights of Sweden using variance component estimation. <i>Contributions To Geophysics and Geodesy</i> , 2010, 40, 1-30.	0.6	11
34	Smoothing impact of isostatic crustal thickness models on local integral inversion of satellite gravity gradiometry data. <i>Acta Geophysica</i> , 2011, 59, 891-906.	2.0	11
35	Recovery of Mohoâ€™s undulations based on the Vening Meineszâ€™Moritz theory from satellite gravity gradiometry data: A simulation study. <i>Advances in Space Research</i> , 2012, 49, 1097-1111.	2.6	11
36	The effect of spatial truncation error on variance of gravity anomalies derived from inversion of satellite orbital and gradiometric data. <i>Advances in Space Research</i> , 2014, 54, 261-271.	2.6	11

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37	Elastic Thickness Determination from on-orbit GOCE Data and CRUST1.0. <i>Pure and Applied Geophysics</i> , 2019, 176, 685-696.	1.9	11
38	The Sub-Crustal Stress Field in the Taiwan Region. <i>Terrestrial, Atmospheric and Oceanic Sciences</i> , 2015, 26, 261.	0.6	11
39	A geoid solution for airborne gravity data. <i>Studia Geophysica Et Geodaetica</i> , 2009, 53, 359-374.	0.5	10
40	The effect of constraints on bi-objective optimisation of geodetic networks. <i>Acta Geodaetica Et Geophysica</i> , 2015, 50, 449-459.	1.6	10
41	Spectral combination of spherical gravitational curvature boundary-value problems. <i>Geophysical Journal International</i> , 2018, 214, 773-791.	2.4	10
42	Impact of vectorization on global synthesis and analysis in gradiometry. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2009, 44, 323-342.	0.4	9
43	On the convergence of spherical harmonic expansion of topographic and atmospheric biases in gradiometry. <i>Contributions To Geophysics and Geodesy</i> , 2009, 39, 273-299.	0.6	9
44	Contribution of 1st -3rd Order Terms of a Binomial Expansion of Topographic Heights in Topographic and Atmospheric Effects on Satellite Gravity Gradiometric Data. <i>Artificial Satellites</i> , 2009, 44, .	0.7	8
45	Optimal combination of integral solutions of gradiometric boundary value problem using variance component estimation in Earth gravitational modelling. <i>Earth, Planets and Space</i> , 2010, 62, 437-448.	2.5	8
46	Geoid modelling based on EGM08 and recent Earth gravity models of GOCE. <i>Earth Science Informatics</i> , 2013, 6, 113-125.	3.2	8
47	Determination of sub-lithospheric stress due to mantle convection using GOCE gradiometric data over Iran. <i>Journal of Applied Geophysics</i> , 2015, 122, 11-17.	2.1	8
48	Local error calibration of EGM08 geoid using GNSS/levelling data. <i>Journal of Applied Geophysics</i> , 2016, 130, 209-217.	2.1	8
49	Elastic thickness determination based on Vening Meinesz's Moritz and flexural theories of isostasy. <i>Geophysical Journal International</i> , 2018, 213, 1682-1692.	2.4	8
50	Comparison of gravimetric and mantle flow solutions for sub-lithospheric stress modeling and their combination. <i>Geophysical Journal International</i> , 2018, 213, 1013-1028.	2.4	8
51	Least-squares modification of Stokes's formula with EGM08. <i>Geodesy and Cartography</i> , 2009, 35, 111-117.	0.5	7
52	Generation of vertical and horizontal gravity gradients using stochastically modified integral estimators. <i>Advances in Space Research</i> , 2011, 48, 1341-1358.	2.6	7
53	A strategy towards an EGM08-based Fennoscandian geoid model. <i>Journal of Applied Geophysics</i> , 2012, 87, 53-59.	2.1	7
54	Evaluation of gravitational gradients generated by Earth's crustal structures. <i>Computers and Geosciences</i> , 2013, 51, 22-33.	4.2	7

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55	On the reliability and error calibration of some recent Earth's gravity models of GOCE with respect to EGM08. <i>Acta Geodaetica Et Geophysica</i> , 2013, 48, 199-208.	1.6	7
56	Elastic thickness of the Iranian lithosphere from gravity and seismic data. <i>Tectonophysics</i> , 2020, 774, 228186.	2.2	7
57	Quality assessment for terrestrial gravity anomalies by variance component estimation using GOCE gradiometric data and Earth's gravity models. <i>Studia Geophysica Et Geodaetica</i> , 2013, 57, 67-83.	0.5	6
58	The use of Gaussian equations of motions of a satellite for local gravity anomaly recovery. <i>Advances in Space Research</i> , 2013, 52, 30-38.	2.6	6
59	Towards sub-lithospheric stress determination from seismic Moho, topographic heights and GOCE data. <i>Journal of Asian Earth Sciences</i> , 2016, 129, 1-12.	2.3	6
60	Lithospheric stress, strain and displacement changes from GRACE-FO time-variable gravity: case study for Sar-e-Pol Zahab Earthquake 2018. <i>Geophysical Journal International</i> , 2020, 223, 379-397.	2.4	6
61	Downward continuation of gravitational field quantities to an irregular surface by spectral weighting. <i>Journal of Geodesy</i> , 2020, 94, 1.	3.6	6
62	Satellite gravimetry observables. , 2021, , 45-90.		6
63	Satellite gravimetry and lithospheric stress. , 2021, , 413-449.		6
64	Comparison of Different Methods for a Moho Modeling Under Oceans and Marginal Seas: A Case Study for the Indian Ocean. <i>Surveys in Geophysics</i> , 2021, 42, 839-897.	4.6	6
65	Evaluation of robust techniques in suppressing the impact of outliers in a deformation monitoring network – a case study on the Tehran Milad tower network. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2007, 42, 449-463.	0.4	5
66	Interpretation of general geophysical patterns in Iran based on GRACE gradient component analysis. <i>Acta Geophysica</i> , 2008, 56, 440-454.	2.0	5
67	Variance component estimation in linear ill-posed problems: TSVD issue. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2010, 45, 184-194.	0.4	5
68	Numerical aspects of EGM08-based geoid computations in Fennoscandia regarding the applied reference surface and error propagation. <i>Journal of Applied Geophysics</i> , 2013, 96, 28-32.	2.1	5
69	Changes in gravitational parameters inferred from time variable GRACE data – A case study for October 2005 Kashmir earthquake. <i>Journal of Applied Geophysics</i> , 2016, 132, 174-183.	2.1	5
70	On Vening Meinesz-Moritz and flexural theories of isostasy and their comparison over Tibet Plateau. <i>Journal of Geodetic Science</i> , 2016, 6, .	1.0	5
71	Integral Approaches to Determine Sub-Crustal Stress from Terrestrial Gravimetric Data. <i>Pure and Applied Geophysics</i> , 2016, 173, 805-825.	1.9	5
72	Evidence of mantle upwelling/downwelling and localized subduction on Venus from the body-force vector analysis. <i>Planetary and Space Science</i> , 2018, 157, 48-62.	1.7	5

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73	Gravity Maps of the Lithospheric Structure Beneath the Indian Ocean. <i>Surveys in Geophysics</i> , 2019, 40, 1055-1093.	4.6	5
74	On quality of NKG2015 geoid model over the Nordic countries. <i>Journal of Geodetic Science</i> , 2019, 9, 97-110.	1.0	5
75	On the integral inversion of satellite-to-satellite velocity differences for local gravity field recovery: a theoretical study. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2016, 124, 127-144.	1.4	4
76	Optimization of deformation monitoring networks using finite element strain analysis. <i>Journal of Applied Geodesy</i> , 2018, 12, 187-197.	1.1	4
77	Towards Validation of Satellite Gradiometric Data Using Modified Version of 2nd Order Partial Derivatives of Extended Stokes' Formula. <i>Artificial Satellites</i> , 2009, 44, .	0.7	4
78	Spherical Harmonics Expansion of the Atmospheric Gravitational Potential Based on Exponential and Power Models of Atmosphere. <i>Artificial Satellites</i> , 2008, 43, 25-43.	0.7	3
79	Quality description for gravimetric and seismic moho models of fennoscandia through a combined adjustment. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2012, 47, 388-401.	0.4	3
80	A strategy to calibrate errors of Earth gravity models. <i>Journal of Applied Geophysics</i> , 2014, 103, 215-220.	2.1	3
81	TWO-EPOCH OPTIMAL DESIGN OF DISPLACEMENT MONITORING NETWORKS. <i>Boletim De Ciencias Geodesicas</i> , 2015, 21, 484-497.	0.3	3
82	Local Recovery of Sub-Crustal Stress Due to Mantle Convection from Satellite-to-Satellite Tracking Data. <i>Acta Geophysica</i> , 2016, 64, 904-929.	2.0	3
83	Moho determination from GOCE gradiometry data over Ethiopia. <i>Journal of African Earth Sciences</i> , 2020, 163, 103741.	2.0	3
84	Effects of mantle dynamics on estimating effective elastic thickness of the lithosphere. <i>Journal of African Earth Sciences</i> , 2021, 183, 104318.	2.0	3
85	Application of the nonlinear optimisation in regional gravity field modelling using spherical radial base functions. <i>Studia Geophysica Et Geodaetica</i> , 2021, 65, 261-290.	0.5	3
86	The effect of geopotential perturbations of GOCE on its observations – A numerical study. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2009, 44, 385-398.	0.4	2
87	On the estimation of variance in unstable condition adjustment models. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2011, 46, 71-83.	0.4	2
88	A theoretical study on terrestrial gravimetric data refinement by Earth gravity models. <i>Geophysical Prospecting</i> , 2014, 62, 158-171.	1.9	2
89	DETERMINISTICALLY-MODIFIED INTEGRAL ESTIMATORS OF GRAVITATIONAL TENSOR. <i>Boletim De Ciencias Geodesicas</i> , 2015, 21, 189-212.	0.3	2
90	The sub-crustal stress estimation in central Eurasia from gravity, terrain and crustal structure models. <i>Geosciences Journal</i> , 2017, 21, 47-54.	1.2	2

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91	Polynomial approximation for fast generation of associated Legendre functions. Acta Geodaetica Et Geophysica, 2018, 53, 275-293.	1.6	2
92	Regional Recovery of Gravity Anomaly from the Inversion of Diagonal Components of GOCE Gravitational Tensor: A Case Study in Ethiopia. Artificial Satellites, 2018, 53, 55-74.	0.6	2
93	Lithospheric elastic thickness estimates in central Eurasia. Terrestrial, Atmospheric and Oceanic Sciences, 2019, 30, 73-84.	0.6	2
94	Inaccuracy in arc power calculation through a product of voltage and current averages. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2022, 44, 1.	1.6	2
95	Considering data gaps in geoid modelling by modifying Stokes's formula. Acta Geodaetica Et Geophysica Hungarica, 2010, 45, 165-183.	0.4	1
96	An integral approach to regional gravity field refinement using earth gravity models. Journal of Geodynamics, 2013, 68, 18-28.	1.6	1
97	From Tensor to Vector of Gravitation. Artificial Satellites, 2014, 49, 63-80.	0.7	1
98	Lithospheric Stress Tensor from Gravity and Lithospheric Structure Models. Pure and Applied Geophysics, 2017, 174, 2677-2688.	1.9	1
99	Isostasy. , 2021, , 263-312.		1
100	Spherical harmonics and potential theory. , 2021, , 1-44.		1
101	The effect of mass heterogeneities and structures on satellite gravimetry data. , 2021, , 205-261.		1
102	The temporal viscoelastic model of flexural isostasy for estimating the elastic thickness of the lithosphere. Geophysical Journal International, 2021, 227, 1700-1714.	2.4	1
103	Spectral Combination in Vector Gravimetric Boundary Value Problems. Journal of Geospatial Information Technology, 2014, 1, 33-50.	0.2	1
104	An alternative approach to Eulerian pole determination and unification of velocity fields of tectonic motions. Tectonophysics, 2014, 617, 79-87.	2.2	0
105	The effect of instrumental precision on optimisation of displacement monitoring networks. Acta Geodaetica Et Geophysica, 2016, 51, 761-772.	1.6	0
106	Local recovery of lithospheric stress tensor from GOCE gravitational tensor. Geophysical Journal International, 2017, , ggx026.	2.4	0
107	A case study on displacement analysis of Vasa warship. Journal of Geodetic Science, 2018, 8, 43-54.	1.0	0
108	Integral equations for inversion of satellite gravimetry data. , 2021, , 91-140.		0

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109	Numerical inversion of satellite gravimetry data. , 2021, , 141-203.		0
110	Satellite gravimetry and isostasy. , 2021, , 313-373.		0
111	Satellite gravimetry and applications of temporal changes of gravity field. , 2021, , 451-474.		0
112	The Earth's Gravity Field Role in Geodesy and Large-Scale Geophysics. , 0, , .		0