Erich Becker

List of Publications by Year
in descending order

59 papers	2,041 citations	185998 28 h-index	243296 44 g-index
61 all docs	61 docs citations	61 times ranked	1134 citing authors

#	Article	IF	Citations
1	Experimental and theoretical investigation of large-amplitude oscillations of liquid droplets. Journal of Fluid Mechanics, 1991, 231, 189-210.	1.4	151
2	Secondary Gravity Waves in the Winter Mesosphere: Results From a Highâ€Resolution Global Circulation Model. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2605-2627.	1.2	124
3	Seasonal variation of mesospheric waves at northern middle and high latitudes. Journal of Atmospheric and Solar-Terrestrial Physics, 2010, 72, 1068-1079.	0.6	107
4	A simple model for the interhemispheric coupling of the middle atmosphere circulation. Advances in Space Research, 2010, 45, 661-668.	1.2	92
5	The Excitation of Secondary Gravity Waves From Local Body Forces: Theory and Observation. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9296-9325.	1.2	85
6	Dynamical Control of the Middle Atmosphere. Space Science Reviews, 2012, 168, 283-314.	3.7	84
7	Enhanced gravity-wave activity and interhemispheric coupling during the MaCWAVE/MIDAS northern summer program 2002. Annales Geophysicae, 2006, 24, 1175-1188.	0.6	80
8	High Rossby-wave activity in austral winter 2002: Modulation of the general circulation of the MLT during the MaCWAVE/MIDAS northern summer program. Geophysical Research Letters, 2004, 31, .	1.5	66
9	Nonlinear dynamics of viscous droplets. Journal of Fluid Mechanics, 1994, 258, 191-216.	1.4	63
10	Numerical Modeling of the Excitation, Propagation, and Dissipation of Primary and Secondary Gravity Waves during Wintertime at McMurdo Station in the Antarctic. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9326-9369.	1.2	63
11	Direct heating rates associated with gravity wave saturation. Journal of Atmospheric and Solar-Terrestrial Physics, 2004, 66, 683-696.	0.6	58
12	Sensitivity of the Upper Mesosphere to the Lorenz Energy Cycle of the Troposphere. Journals of the Atmospheric Sciences, 2009, 66, 647-666.	0.6	58
13	Numerical Modeling of the Generation of Tertiary Gravity Waves in the Mesosphere and Thermosphere During Strong Mountain Wave Events Over the Southern Andes. Journal of Geophysical Research: Space Physics, 2019, 124, 7687-7718.	0.8	58
14	Climatological Effects of Orography and Landâ€“Sea Heating Contrasts on the Gravity Waveâ€“Driven Circulation of the Mesosphere. Journals of the Atmospheric Sciences, 2003, 60, 103-118.	0.6	53
15	Explicit Global Simulation of Gravity Waves in the Thermosphere. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028034.	0.8	48
16	Mean-Flow Effects of Thermal Tides in the Mesosphere and Lower Thermosphere. Journals of the Atmospheric Sciences, 2017, 74, 2043-2063.	0.6	46
17	Characteristics of the Quietâ€Time Hot Spot Gravity Waves Observed by GOCE Over the Southern Andes on 5 July 2010. Journal of Geophysical Research: Space Physics, 2019, 124, 7034-7061.	0.8	42
18	The structure of the mesosphere during sudden stratospheric warmings in a global circulation model. Journal of Geophysical Research D: Atmospheres, 2013, 118, 2255-2271.	1.2	39

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19	Frictional Heating in Global Climate Models. Monthly Weather Review, 2003, 131, 508-520.	0.5	35
20	Energy Deposition and Turbulent Dissipation Owing to Gravity Waves in the Mesosphere. Journals of the Atmospheric Sciences, 2002, 59, 54-68.	0.6	34
21	Dynamical heating of the polar summer mesopause induced by solar proton events. Journal of Geophysical Research, 2010, 115, .	3.3	34
22	Nonlinear Horizontal Diffusion for GCMs. Monthly Weather Review, 2007, 135, 1439-1454.	0.5	33
23	Gravity Wave Mixing and Effective Diffusivity for Minor Chemical Constituents in the Mesosphere/Lower Thermosphere. Space Science Reviews, 2012, 168, 333-362.	3.7	33
24	Lidar Observations of Stratospheric Gravity Waves From 2011 to 2015 at McMurdo (77.84Â°S, 166.69Â°E), Antarctica: 2. Potential Energy Densities, Lognormal Distributions, and Seasonal Variations. Journal of Geophysical Research D: Atmospheres, 2018, 123, 7910-7934.	1.2	33
25	Indications of Stratified Turbulence in a Mechanistic GCM. Journals of the Atmospheric Sciences, 2013, 70, 231-247.	0.6	32
26	How Does Interhemispheric Coupling Contribute to Cool Down the Summer Polar Mesosphere?. Journal of Climate, 2016, 29, 8807-8821.	1.2	32
27	Interaction between Extratropical Stationary Waves and the Zonal Mean Circulation. Journals of the Atmospheric Sciences, 2001, 58, 462-480.	0.6	31
28	Coupling of Stratospheric Warmings with Mesospheric Coolings in Observations and Simulations. Journal of Climate, 2018, 31, 1107-1133.	1.2	31
29	A Highâ€Resolution Wholeâ€Atmosphere Model With Resolved Gravity Waves and Specified Largeâ€Scale Dynamics in the Troposphere and Stratosphere. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	30
30	Orographic Primary and Secondary Gravity Waves in the Middle Atmosphere From 16â€Year SABER Observations. Geophysical Research Letters, 2019, 46, 4512-4522.	1.5	27
31	Symmetric Stress Tensor Formulation of Horizontal Momentum Diffusion in Global Models of Atmospheric Circulation. Journals of the Atmospheric Sciences, 2001, 58, 269-282.	0.6	26
32	Consistent Scale Interaction of Gravity Waves in the Doppler Spread Parameterization. Journals of the Atmospheric Sciences, 2009, 66, 1434-1449.	0.6	26
33	Nuclear scission. Nuclear Physics A, 1989, 502, 423-442.	0.6	25
34	The Role of Stationary Waves in the Maintenance of the Northern Annular Mode as Deduced from Model Experiments. Journals of the Atmospheric Sciences, 2006, 63, 2931-2947.	0.6	24
35	Dynamically induced hemispheric differences in the seasonal cycle of the summer polar mesopause. Journal of Atmospheric and Solar-Terrestrial Physics, 2015, 129, 128-141.	0.6	23
36	Seasonal variability of atmospheric tides in the mesosphere and lower thermosphere: meteor radar data and simulations. Annales Geophysicae, 2018, 36, 825-830.	0.6	23

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37	Wave mixing effects on minor chemical constituents in the MLT region: Results from a global CTM driven by high-resolution dynamics. Journal of Geophysical Research, 2011, 116, .	3.3	22
38	On the Upward Extension of the Polar Vortices Into the Mesosphere. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9171-9191.	1.2	21
39	A Consistent Diffusionâ€"Dissipation Parameterization in the ECHAM Climate Model. Monthly Weather Review, 2006, 134, 1194-1204.	0.5	20
40	The feedback of midlatitude waves onto the Hadley cell in a simple general circulation model. Tellus, Series A: Dynamic Meteorology and Oceanography, 1997, 49, 182-199.	0.8	15
41	Horizontal Momentum Diffusion in GCMs Using the Dynamic Smagorinsky Model. Monthly Weather Review, 2013, 141, 887-899.	0.5	15
42	Observations of Stratospheric Gravity Waves Over Europe on 12 January 2016: The Role of the Polar Night Jet. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032893.	1.2	14
43	Evaluation of the Mesospheric Polar Vortices in WACCM. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10626-10645.	1.2	12
44	Winter/summer transition in the Antarctic mesopause region. Journal of Geophysical Research D: Atmospheres, 2015, 120, 12394-12409.	1.2	11
45	Positive definite and mass conserving tracer transport in spectral GCMs. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,562-11,577.	1.2	8
46	Turbulent Parameters in the Middle Atmosphere: Theoretical Estimates Deduced from a Gravity Waveâ€"Resolving General Circulation Model. Journals of the Atmospheric Sciences, 2022, 79, 933-952.	0.6	8
47	Scale-Invariant Formulation of Momentum Diffusion for High-Resolution Atmospheric Circulation Models. Monthly Weather Review, 2018, 146, 1045-1062.	0.5	7
48	Modeled Gravity Waveâ€Like Perturbations in the Brightness of Far Ultraviolet Emissions for the GOLD Mission. Journal of Geophysical Research: Space Physics, 2018, 123, 5821-5830.	0.8	7
49	Gravity wave mixing effects on the OH*-layer. Advances in Space Research, 2020, 65, 175-188.	1.2	7
50	Dependence of the annular mode in the troposphere and stratosphere on orography and land-sea heating contrasts. Geophysical Research Letters, 2003, 30, n/a-n/a.	1.5	5
51	Comments on â€œA Spectral Parameterization of Drag, Eddy Diffusion, and Wave Heating for a Three-Dimensional Flow Induced by Breaking Gravity Wavesâ€. Journals of the Atmospheric Sciences, 2011, 68, 2465-2469.	0.6	5
52	Reply to â€œComments on â€˜Indications of Stratified Turbulence in a Mechanistic GCMâ€™â€. Journals of the Atmospheric Sciences, 2014, 71, 858-862.	0.6	4
53	The IDEMIX Model: Parameterization of Internal Gravity Waves for Circulation Models of Ocean and Atmosphere. Mathematics of Planet Earth, 2019, , 87-125.	0.1	4
54	An idealized radiative transfer scheme for use in a mechanistic general circulation model from the surface up to the mesopause region. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1460-1478.	1.1	3

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55	The role of orographically and thermally forced stationary waves in the causation of the residual circulation. Tellus, Series A: Dynamic Meteorology and Oceanography, 1999, 51, 902-913.	0.8	2
56	Impact of Short-Term Solar Variability on the Polar Summer Mesopause and Noctilucent Clouds. Springer Atmospheric Sciences, 2013, , 365-382.	0.4	2
57	Preface to the Special Issue on Crucial Processes Acting in the Mesosphere/Lower Thermosphere. Surveys in Geophysics, 2012, 33, 1173-1176.	2.1	0
58	Dynamical Control of the Middle Atmosphere. Space Sciences Series of ISSI, 2011, , 283-314.	0.0	0
59	Gravity Wave Mixing and Effective Diffusivity for Minor Chemical Constituents in the Mesosphere/Lower Thermosphere. Space Sciences Series of ISSI, 2011, , 333-362.	0.0	0