Roman Simon Hilscher

List of Publications by Year
in descending order

89 papers	1,085 citations	430442 18 h-index	552369 26 g-index
93 all docs	93 docs citations	93 times ranked	156 citing authors

#	Article	IF	Citations
1	Transformation preserving controllability for nonlinear optimal control problems with joint boundary conditions. ESAIM - Control, Optimisation and Calculus of Variations, 2021, 27, 75.	0.7	0
2	Distribution and number of focal points for linear Hamiltonian systems. Linear Algebra and Its Applications, 2021, 611, 26-45.	0.4	4
3	Comparative index and Lidskii angles for symplectic matrices. Linear Algebra and Its Applications, 2021, 624, 174-197.	0.4	2
4	Lidskii angles and Sturmian theory for linear Hamiltonian systems on compact interval. Journal of Differential Equations, 2021, 298, 1-29.	1.1	3
5	Singular Sturmian comparison theorems for linear Hamiltonian systems. Journal of Differential Equations, 2020, 269, 2920-2955.	1.1	8
6	Sturmian comparison theorems for completely controllable linear Hamiltonian systems in singular case. Journal of Mathematical Analysis and Applications, 2020, 487, 124030.	0.5	3
7	Antiprincipal solutions at infinity for symplectic systems on time scales. Electronic Journal of Qualitative Theory of Differential Equations, 2020, , 1-32.	0.2	0
8	Singular Sturmian separation theorems on unbounded intervals for linear Hamiltonian systems. Journal of Differential Equations, 2019, 266, 7481-7524.	1.1	11
9	Oscillation Theory of Symplectic Systems. Pathways in Mathematics, 2019, , 201-260.	0.1	0
10	Discrete Symplectic Eigenvalue Problems. Pathways in Mathematics, 2019, , 261-396.	0.1	0
11	Basic Theory of Symplectic Systems. Pathways in Mathematics, 2019, , 83-148.	0.1	0
12	Miscellaneous Topics on Symplectic Systems. Pathways in Mathematics, 2019, , 397-572.	0.1	0
13	Comparative Index Theory. Pathways in Mathematics, 2019, , 149-200.	0.1	0
14	Motivation and Preliminaries. Pathways in Mathematics, 2019, , 1-81.	0.1	1
15	Focal points and principal solutions of linear Hamiltonian systems revisited. Journal of Differential Equations, 2018, 264, 5541-5576.	1.1	11
16	On square integrable solutions and principal and antiprincipal solutions for linear Hamiltonian systems. Annali Di Matematica Pura Ed Applicata, 2018, 197, 283-306.	0.5	2
17	Sufficiency and sensitivity for nonlinear optimal control problems on time scales via coercivity. ESAIM - Control, Optimisation and Calculus of Variations, 2018, 24, 1705-1734.	0.7	2
18	Singular Sturmian separation theorems for nonoscillatory symplectic difference systems. Journal of Difference Equations and Applications, 2018, 24, 1894-1934.	0.7	6

#	Article	IF	Citations
19	Discrete oscillation theorems for symplectic eigenvalue problems with general boundary conditions depending nonlinearly on spectral parameter. Linear Algebra and Its Applications, 2018, 558, 108-145.	0.4	8
20	Dominant and recessive solutions at infinity and genera of conjoined bases for discrete symplectic systems. Journal of Difference Equations and Applications, 2017, 23, 657-698.	0.7	7
21	Comparative index and Sturmian theory for linear Hamiltonian systems. Journal of Differential Equations, 2017, 262, 914-944.	1.1	26
22	Sturm–Liouville matrix differential systems with singular leading coefficient. Annali Di Matematica Pura Ed Applicata, 2017, 196, 1165-1183.	0.5	1
23	Principal solutions at infinity for time scale symplectic systems without controllability condition. Journal of Mathematical Analysis and Applications, 2016, 444, 852-880.	0.5	5
24	Genera of conjoined bases of linear Hamiltonian systems and limit characterization of principal solutions at infinity. Journal of Differential Equations, 2016, 260, 6581-6603.	1.1	10
25	Reid's Construction of Minimal Principal Solution at Infinity for Linear Hamiltonian Systems. Springer Proceedings in Mathematics and Statistics, 2016, , 359-369.	0.1	5
26	Limit circle invariance for two differential systems on time scales. Mathematische Nachrichten, 2015, 288, 696-709.	0.4	11
27	Principal Solutions at Infinity of Given Ranks for Nonoscillatory Linear Hamiltonian Systems. Journal of Dynamics and Differential Equations, 2015, 27, 137-175.	1.0	23
28	Principal and antiprincipal solutions at infinity of linear Hamiltonian systems. Journal of Differential Equations, 2015, 259, 4651-4682.	1.1	17
29	Time scale symplectic systems with analytic dependence on spectral parameter. Journal of Difference Equations and Applications, 2015, 21, 209-239.	0.7	5
30	Recessive solutions for nonoscillatory discrete symplectic systems. Linear Algebra and Its Applications, 2015, 469, 243-275.	0.4	9
31	Asymptotic properties of solutions of Riccati matrix equations and inequalities for discrete symplectic systems. Electronic Journal of Qualitative Theory of Differential Equations, 2015, , 1-16.	0.2	3
32	Eigenvalue Comparison for Discrete Symplectic Systems. Springer Proceedings in Mathematics and Statistics, 2015, , 95-107.	0.1	2
33	Comparison theorems for self–adjoint linear Hamiltonian eigenvalue problems. Mathematische Nachrichten, 2014, 287, 704-716.	0.4	1
34	Weyl–Titchmarsh theory for discrete symplectic systems with general linear dependence on spectral parameter. Journal of Difference Equations and Applications, 2014, 20, 84-117.	0.7	20
35	Limit point and limit circle classification for symplectic systems on time scales. Applied Mathematics and Computation, 2014, 233, 623-646.	1.4	18
36	Minimal Principal Solution at Infinity for Nonoscillatory Linear Hamiltonian Systems. Journal of Dynamics and Differential Equations, 2014, 26, 57-91.	1.0	32

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37	Weyl disks and square summable solutions for discrete symplectic systems with jointly varying endpoints. Advances in Difference Equations, 2013, 2013, .	3.5	5
38	A Generalized Index Theorem for Monotone Matrix-Valued Functions with Applications to Discrete Oscillation Theory. SIAM Journal on Matrix Analysis and Applications, 2013, 34, 228-243.	0.7	13
39	Rayleigh principle for linear Hamiltonian systems without controllability. ESAIM - Control, Optimisation and Calculus of Variations, 2012, 18, 501-519.	0.7	24
40	Oscillation theorems for discrete symplectic systems with nonlinear dependence in spectral parameter. Linear Algebra and Its Applications, 2012, 437, 2922-2960.	0.4	16
41	Spectral and oscillation theory for general second order Sturm-Liouville difference equations. Advances in Difference Equations, 2012, 2012, 82.	3.5	13
42	Eigenvalue theory for time scale symplectic systems depending nonlinearly on spectral parameter. Applied Mathematics and Computation, 2012, 219, 2839-2860.	1.4	11
43	Oscillation and spectral theory for linear Hamiltonian systems with nonlinear dependence on the spectral parameter. Mathematische Nachrichten, 2012, 285, 1343-1356.	0.4	11
44	Oscillation theorems and Rayleigh principle for linear Hamiltonian and symplectic systems with general boundary conditions. Applied Mathematics and Computation, 2012, 218, 8309-8328.	1.4	12
45	Hamilton–Jacobi theory over time scales and applications to linear-quadratic problems. Nonlinear Analysis: Theory, Methods & Applications, 2012, 75, 932-950.	0.6	21
46	Oscillation criterion for half-linear differential equations with periodic coefficients. Journal of Mathematical Analysis and Applications, 2012, 393, 360-366.	0.5	8
47	Eigenvalue and oscillation theorems for time scale symplectic systems. International Journal of Dynamical Systems and Differential Equations, 2011, 3, 84.	0.2	14
48	First order conditions for generalized variational problems over time scales. Computers and Mathematics With Applications, 2011, 62, 3490-3503.	1.4	19
49	Sturmian theory for linear Hamiltonian systems without controllability. Mathematische Nachrichten, 2011, 284, 831-843.	0.4	28
50	Weyl-Titchmarsh Theory for Time Scale Symplectic Systems on Half Line. Abstract and Applied Analysis, 2011, 2011, 1-41.	0.3	12
51	Rayleigh principle for time scale symplectic systems and applications. Electronic Journal of Qualitative Theory of Differential Equations, 2011, , 1-26.	0.2	5
52	On general Sturmian theory for abnormal linear Hamiltonian systems. , 2011, , .		0
53	Nabla time scale symplectic systems and related quadratic functionals. Differential Equations and Dynamical Systems, 2010, 18, 163-198.	0.5	7
54	Symmetric Three-Term Recurrence Equations and Their Symplectic Structure. Advances in Difference Equations, 2010, 2010, 626942.	3.5	7

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55	Multiplicities of focal points for discrete symplectic systems: revisited. Journal of Difference Equations and Applications, 2009, 15, 1001-1010.	0.7	11
56	Weak maximum principle and accessory problem for control problems on time scales. Nonlinear Analysis: Theory, Methods & Applications, 2009, 70, 3209-3226.	0.6	49
57	Picone type identities and definiteness of quadratic functionals on time scales. Applied Mathematics and Computation, 2009, 215, 2425-2437.	1.4	8
58	Riccati equations for abnormal time scale quadratic functionals. Journal of Differential Equations, 2008, 244, 1410-1447.	1.1	21
59	Applications of time scale symplectic systems without normality. Journal of Mathematical Analysis and Applications, 2008, 340, 451-465.	0.5	21
60	PERTURBATION OF NONNEGATIVE TIME SCALE QUADRATIC FUNCTIONALS. , 2007, , .		2
61	Coupled intervals for discrete symplectic systems. Linear Algebra and Its Applications, 2006, 419, 750-764.	0.4	9
62	Time scale symplectic systems without normality. Journal of Differential Equations, 2006, 230, 140-173.	1.1	19
63	Riccati inequality and other results for discrete symplectic systems. Journal of Mathematical Analysis and Applications, 2006, 322, 1083-1098.	0.5	17
64	Nonnegativity and positivity of quadratic functionals in discrete calculus of variations: survey. Journal of Difference Equations and Applications, 2005, 11, 857-875.	0.7	17
65	Equivalent conditions to the nonnegativity of a quadratic functional in discrete optimal control. Mathematische Nachrichten, 2004, 266, 48-59.	0.4	3
66	Calculus of variations on time scales: weak local piecewise Crd1 solutions with variable endpoints. Journal of Mathematical Analysis and Applications, 2004, 289, 143-166.	0.5	64
67	Coupled Intervals in the Discrete Optimal Control. Journal of Difference Equations and Applications, 2004, 10, 151-186.	0.7	7
68	Discrete Quadratic Functionals with Jointly Varying Endpoints via Separable Endpoints. , 2004, , 461-470.		2
69	Nonnegativity of discrete quadratic functionals corresponding to symplectic difference systems. Linear Algebra and Its Applications, 2003, 375, 21-44.	0.4	12
70	Symplectic difference systems: variable stepsize discretization and discrete quadratic functionals. Linear Algebra and Its Applications, 2003, 367, 67-104.	0.4	30
71	Nonnegativity of a discrete quadratic functional in terms of the (strengthened) legendre and jacobi conditions. Computers and Mathematics With Applications, 2003, 45, 1369-1383.	1.4	9
72	A class of Sturm-Liouville difference equations: (Non)oscillation constants and property BD. Computers and Mathematics With Applications, 2003, 45, 961-981.	1.4	8

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73	A Remark on Discrete Quadratic Functionals with Separable Endpoints. Rocky Mountain Journal of Mathematics, 2003, 33, 1337.	0.2	3
74	Second Order Sufficiency Criteria for a Discrete Optimal Control Problem. Journal of Difference Equations and Applications, 2002, 8, 573-603.	0.7	27
75	Discrete Optimal Control: Second Order Optimality Conditions. Journal of Difference Equations and Applications, 2002, 8, 875-896.	0.7	27
76	A time scales version of a Wirtinger-type inequality and applications. Journal of Computational and Applied Mathematics, 2002, 141, 219-226.	1.1	37
77	Coupled intervals in the discrete calculus of variations: necessity and sufficiency. Journal of Mathematical Analysis and Applications, 2002, 276, 396-421.	0.5	11
78	Reid Roundabout Theorem for Symplectic Dynamic Systems on Time Scales. Applied Mathematics and Optimization, 2001, 43, 129-146.	0.8	27
79	Linear Hamiltonian dynamic systems on time scales: Sturmian property of the principal solution. Nonlinear Analysis: Theory, Methods & Applications, 2001, 47, 849-860.	0.6	15
80	Discrete spectra criteria for certain classes of singular differential and difference operators. Computers and Mathematics With Applications, 2001, 42, 465-476.	1.4	16
81	Inhomogeneous Quadratic Functionals on Time Scales. Journal of Mathematical Analysis and Applications, 2001, 253, 473-481.	0.5	4
82	Disconjugacy, transformations and quadratic functionals for symplectic dynamic systems on time scales. Journal of Difference Equations and Applications, 2001, 7, 265-295.	0.7	42
83	Discrete Optimal Control: The Accessory Problem and Necessary Optimality Conditions. Journal of Mathematical Analysis and Applications, 2000, 243, 429-452.	0.5	17
84	Linear Hamiltonian systems on time scales: Positivity of quadratic functionals. Mathematical and Computer Modelling, 2000, 32, 507-527.	2.0	16
85			2
86	Disconjugacy of Symplectic Systems and Positive Definiteness of Block Tridiagonal Matrices. Rocky Mountain Journal of Mathematics, 1999, 29, .	0.2	15
87	New results for time reversed symplectic dynamic systems and quadratic functionals. , 0, , .		5
88	Weak disconjugacy, weak controllability, and genera of conjoined bases for linear Hamiltonian systems. Annali Di Matematica Pura Ed Applicata, 0, , 1.	0.5	0
89	Oscillation Numbers for Continuous Lagrangian Paths and Maslov Index. Journal of Dynamics and Differential Equations, 0, , 1.	1.0	4