

**List of published papers**  
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**I. PhD Thesis**

**Savin Treanță:** *Geometric PDEs and Control Problems*, University Politehnica of Bucharest, 2013.

**II. Published articles (in WoS)**

- 44) S. Treanță**, *Characterization results of solutions in interval-valued optimization problems with mixed constraints*, Journal of Global Optimization; 2021; DOI: 10.1007/s10898-021-01049-4; WOS: 000668875400001; ISSN: 0925-5001.
- 43) S. Treanță**, *On a class of controlled differential variational inequalities*, Applicable Analysis; 2021; DOI: 10.1080/00036811.2021.1919646; WOS: 000643848800001; ISSN: 0003-6811; eISSN: 1563-504X.
- 42) S. Treanță**, *On a global efficiency criterion in multiobjective variational control problems with path-independent curvilinear integral cost functionals*, Annals of Operations Research; 2020; DOI: 10.1007/s10479-020-03579-8; WOS: 000522601800002; ISSN: 0254-5330; eISSN: 1572-9338.
- 41) S. Treanță**, *Saddle-point optimality criteria involving (rho, b, d)-invexity and (rho, b, d)-pseudoinvexity in interval-valued optimization problems*, International Journal of Control; 2020; DOI: 10.1080/00207179.2020.1837960; WOS: 000582933000001; ISSN: 0020-7179; eISSN: 1366-5820.
- 40) S. Singh, S. Treanță**, *Characterization results of weak sharp solutions for split variational inequalities with application to traffic analysis*, Annals of Operations Research, Vol. 302, No. 8, pp. 265-287, 2021; DOI: 10.1007/s10479-021-03971-y; WOS: 000618124900001; ISSN: 0254-5330; eISSN: 1572-9338.

- 39) S. Treanță**, *Efficiency in uncertain variational control problems*, Neural Computing and Applications, Vol. 33, No. 11, pp. 5719-5732, 2021; DOI: 10.1007/s00521-020-05353-0; WOS: 000571688500002; ISSN: 0143-2087; eISSN: 1099-1514.
- 38) S. Treanță**, *On a class of isoperimetric constrained controlled optimization problems*, Axioms, Vol. 10, No. 2, 112, 2021; DOI: 10.3390/axioms10020112; WOS: 000665136300001; ISSN: 2075-1680.
- 37) S. Treanță**, *On a Dual Pair of Multiobjective Interval-Valued Variational Control Problems*, Mathematics, Vol. 9, No. 8, 893, 2021; DOI: 10.3390/math9080893; WOS: 000644514500001; eISSN: 2227-7390.
- 36) S. Treanță**, *On a class of constrained interval-valued optimization problems governed by mechanical work cost functionals*, Journal of Optimization Theory and Applications, Vol. 188, No. 3, pp. 913-924, 2021; DOI: 10.1007/s10957-021-01815-0; WOS: 000609071400002; ISSN: 0022-3239; eISSN: 1573-2878.
- 35) S. Treanță**, S. Singh, *Weak sharp solutions associated with a multidimensional variational-type inequality*, Positivity, Vol. 25, No. 2, pp. 329-351, 2021; DOI: 10.1007/s11117-020-00765-7; WOS: 000534701900002; ISSN: 1385-1292.
- 34) S. Treanță**, *Duality Theorems for  $(\rho, \psi, d)$ -Quasiinvex Multiobjective Optimization Problems with Interval-Valued Components*, Mathematics, Vol. 9, No. 8, 894, 2021; DOI: 10.3390/math9080894; WOS: 000644527900001; eISSN: 2227-7390.
- 33) S. Treanță**, *On a class of differential variational inequalities in infinite-dimensional spaces*, Mathematics, Vol. 9, No. 3, 266, 2021; DOI: 10.3390/math9030266; WOS: 000615394500001; eISSN: 2227-7390.
- 32) S. Treanță**, *A necessary and sufficient condition of optimality for a class of multidimensional control problems*, Optimal Control, Applications & Methods, Vol. 41, No. 6, pp. 2137-2148, 2020; DOI: 10.1002/oca.2645; WOS: 000551334900001; ISSN: 0143-2087; eISSN: 1099-1514.
- 31) S. Treanță**, *Saddle-point optimality criteria in modified variational control problems with PDE constraints*, Optimal Control, Applications & Methods, Vol. 41, No. 4, pp. 1160-1175, 2020; DOI: 10.1002/oca.2594; WOS: 000544522000009; ISSN: 0143-2087; eISSN: 1099-1514.
- 30) S. Treanță**, *Constrained variational problems governed by second-order Lagrangians*, Applicable Analysis, Vol. 99, No. 9, 1467-1484, 2020; DOI: 10.1080/00036811.2018.1538501; WOS: 000544485400002; ISSN: 0003-6811; eISSN: 1563-504X.

- 29) S. Treanță**, *Some results on  $(\rho, b, d)$ -variational inequalities*, Journal of Mathematical Inequalities, Vol. 14, No. 3, pp. 805-818, 2020; DOI: 10.7153/jmi-2020-14-51; WOS: 000571491100013; ISSN: 1846-579X; eISSN: 1848-9575.
- 28) S. Treanță**, *Gradient Structures Associated With a Polynomial Differential Equation*, Mathematics, Vol. 8, No. 4, 535, 2020; DOI: 10.3390/math8040535; WOS: 000531824100075; eISSN: 2227-7390.
- 27) S. Treanță**, *On the Kernel of a Polynomial of Scalar Derivations*, Mathematics, Vol. 8, No. 4, 515, 2020; DOI: 10.3390/math8040515; WOS: 000531824100055; eISSN: 2227-7390.
- 26) S. Treanță**, *On Geodesic Behavior of Some Special Curves*, Symmetry, Vol. 12, No. 4, 504, 2020; DOI: 10.3390/sym12040504; WOS: 000540222200015; eISSN: 2073-8994.
- 25) S. Treanță**, Șt. Mititelu, *Efficiency for variational control problems on Riemann manifolds with geodesic quasiinvex curvilinear integral functionals*, Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas, Vol. 114, No. 3, 113, 2020; DOI: 10.1007/s13398-020-00842-2; WOS: 000529292100002; ISSN: 1578-7303; eISSN: 1579-1505.
- 24) S. Treanță**, *On Modified Interval-Valued Variational Control Problems with First-Order PDE Constraints*, Symmetry, Vol. 12, No. 3, 472, 2020; DOI: 10.3390/sym12030472; WOS: 000525824300147; eISSN: 2073-8994.
- 23) S. Treanță**, *On weak sharp solutions in  $(\rho, b, d)$ -variational inequalities*, Journal of Inequalities and Applications, Vol. 2020, No. 1, 54, 2020; DOI: 10.1186/s13660-020-02323-x; WOS: 000519076700002; ISSN: 1029-242X.
- 22) S. Treanță**, M. Arana-Jiménez, T. Antczak, *A necessary and sufficient condition on the equivalence between local and global optimal solutions in variational control problems*, Nonlinear Analysis-Theory Methods & Applications, Vol. 191, 111640, 2020; DOI: 10.1016/j.na.2019.111640; WOS: 000500478900002; ISSN: 0362-546X; eISSN: 1873-5215.
- 21) S. Treanță**, *On a modified optimal control problem with first-order PDE constraints and the associated saddle-point optimality criterion*, European Journal of Control, Vol. 51, pp. 1-9, 2020; DOI: 10.1016/j.ejcon.2019.07.003; WOS: 000510946100001; ISSN: 0947-3580.
- 20) S. Treanță**, *Characterization of efficient solutions for a class of PDE-constrained vector control problems*, Numerical Algebra, Control and Optimization, Vol. 10, No. 1, pp. 93-106, 2020; DOI: 10.3934/naco.2019010; WOS: 000506654000007; ISSN: 2155-3289; eISSN: 2155-3297.

- 19) S. Treanță**, *Efficiency in generalized V-KT-pseudoinvex control problems*, International Journal of Control, Vol. 93, No. 3, pp. 611-618, 2020; DOI: 10.1080/00207179.2018.1483082; WOS: 000525971000023; ISSN: 0020-7179; eISSN: 1366-5820.
- 18) S. Treanță**, Șt. Mititelu, *Duality with (rho, b)-quasiinvexity for multidimensional vector fractional control problems*, Journal of Information and Optimization Sciences, Vol. 40, No. 7, pp. 1429-1445, 2019; DOI: 10.1080/02522667.2018.1522798; WOS: 000504012100005; ISSN: 0252-2667; eISSN: 2169-0103.
- 17) S. Treanță**, *On Locally and Globally Optimal Solutions in Scalar Variational Control Problems*, Mathematics, Vol. 7, No. 9, 829, 2019; DOI: 10.3390/math7090829; WOS: 000487953700058; ISSN: 2227-7390.
- 16) S. Treanță**, *Noether-type first integrals associated with autonomous second-order Lagrangians*, Symmetry, Vol. 11, No. 9, 1088, 2019; DOI: 10.3390/sym11091088; WOS: 000489177900024; ISSN: 2073-8994.
- 15) S. Treanță**, *KT-geodesic pseudoinvex control problems governed by multiple integrals*, Journal of Nonlinear and Convex Analysis, Vol. 20, No. 1, pp. 73-84, 2019; WOS: 000463848800005; ISSN: 1345-4773; eISSN: 1880-5221.
- 14) S. Treanță**, *On a new class of vector variational control problems*, Numerical Functional Analysis and Optimization, Vol. 39, No. 14, pp. 1594-1603, 2018; DOI: 10.1080/01630563.2018.1488142; WOS: 000467257300006; ISSN: 0163-0563; eISSN: 1532-2467.
- 13) S. Treanță**, M. Arana-Jiménez, *On generalized KT-pseudoinvex control problems involving multiple integral functionals*, European Journal of Control, Vol. 43, pp. 39-45, 2018; DOI: 10.1016/j.ejcon.2018.05.004; WOS: 000445983200005; ISSN: 0947-3580.
- 12) S. Treanță**, M. Arana-Jiménez, *KT-pseudoinvex multidimensional control problem*, Optim. Control Appl. Meth., Vol. 39, No. 4, pp. 1291-1300, 2018; DOI: 10.1002/oca.2410; WOS: 000438514000002; ISSN: 0143-2087; eISSN: 1099-1514.
- 11) S. Treanță**, *Higher-order Hamilton dynamics and Hamilton-Jacobi divergence PDE*, Computers and Mathematics with Applications, Vol. 75, No. 2, pp. 547-560, 2018; DOI: 10.1016/j.camwa.2017.09.033; WOS: 000427333100015; ISSN: 0898-1221; eISSN: 1873-7668.
- 10) Șt. Mititelu, S. Treanță**, *Efficiency conditions in vector control problems governed by multiple*

*integrals*, J. Appl. Math. Comput., Vol. 57, No. 1-2, pp. 647-665, 2018; DOI: 10.1007/s12190-017-1126-z; WOS: 000430674500032; ISSN: 1598-5865; eISSN: 1865-2085.

**9) S. Treanță**, *Local uncontrollability for affine control systems with jumps*, International Journal of Control, Vol. 90, No. 9, pp. 1893-1902, 2017; DOI: 10.1080/00207179.2016.1227090; WOS: 000404245200008; ISSN: 0020-7179; eISSN: 1366-5820.

**8) S. Treanță**, *Multiobjective fractional variational problem on higher-order jet bundles*, Communications in Mathematics and Statistics, Vol. 4, No. 3, pp. 323-340, 2016; DOI: 10.1007/s40304-016-0087-0; WOS: 000405097400003; ISSN: 2194-6701; eISSN: 2194-671X.

**7) S. Treanță**, *On a vector optimization problem involving higher order derivatives*, U.P.B. Scientific Bulletin, Series A, Vol. 77, No. 1, pp. 115-128, 2015; WOS: 000350851200013; ISSN: 1223-7027.

**6) S. Treanță**, *On multi-time Hamilton-Jacobi theory via second order Lagrangians*, U.P.B. Scientific Bulletin, Series A, Vol. 76, No. 3, pp. 129-140, 2014; WOS: 000340335100011; ISSN: 1223-7027.

**5) S. Treanță**, C. Vârsan, *Linear higher order PDEs of Hamilton-Jacobi and parabolic type*, Mathematical Reports, Vol. 16(66), No. 2, pp. 319-329, 2014; WOS: 000339642200011; ISSN: 1582-3067.

**4) S. Treanță**, *PDEs of Hamilton-Pfaff type via multi-time optimization problems*, U.P.B. Scientific Bulletin, Series A, Vol. 76, No. 1, pp. 163-168, 2014; WOS: 000332914700016; ISSN: 1223-7027.

**3) S. Treanță**, C. Vârsan, *Weak small controls and approximations associated with controllable affine control systems*, Journal of Differential Equations, Vol. 255, No. 7, pp. 1867-1882, 2013; DOI: 10.1016/j.jde.2013.05.028; WOS: 000322092900018; ISSN: 0022-0396.

**2) S. Treanță**, C. Udriște, *Optimal control problems with higher order ODEs constraints*, Balkan Journal of Geometry and Its Applications, Vol. 18, No. 1, pp. 71-86, 2013; WOS: 000320754500007; ISSN: 1224-2780.

**1) M. Doroftei, S. Treanță**, *Higher order hyperbolic equations involving a finite set of derivations*, Balkan Journal of Geometry and Its Applications, Vol. 17, No. 2, pp. 22-33, 2012; WOS: 000302643700003; ISSN: 1224-2780.