List of publications of
Eugene Stepanov

I. Monographs.

1. E. Stepanov. Mathematical models of optimization of transportation networks and flows. ITMO, St. Petersburg, 2005. In Russian. ISBN: 5-7577-0262-1.

2. G. Buttazzo, A. Pratelli, S. Solimini, E. Stepanov. Optimal urban networks via mass transportation. Lecture Notes in Mathematics, 1961. Springer-Verlag, Berlin, 2009. x+150 pp. ISBN: 978-3-540-85798-3.

II. Articles in journals (in inverse chronological order)

NN	Authors	Title	Journal	Review
1.	A. Ponosov, E. Stepanov	Atomic operators, random dynamical systems and invariant measures	*St. Petersburg Math. J.,* **26** (2014), no. 4, 148–194	
2.	V. Georgiev, E. Stepanov	Metric cycles, curves and solenoids	*Discrete and Continuous Dynamical Systems - Series A,* **34** (2014), no. 4, 1443–1463	
3.	E. Paolini, E. Stepanov	Structure of metric cycles and normal one-dimensional currents.	*J. Funct. Anal.,* **264** (2013), no. 6, 1269–1295	
4.	M. Novaga, A. Sobolevskii, E. Stepanov	Droplet condensation and isoperimetric towers	*Pacific J. Math.,* **262** (2013), no. 2, 457–480	
5.	G. Buttazzo, F. Santambrogio, E. Stepanov	Asymptotic optimal location of facilities in a competition between population and industries	*Ann. Sc. Norm. Sup. Pisa Cl. Sci,* **XII** (2013), no. 5, 239–273	
6.	E. Paolini, E. Stepanov	Existence and regularity results for the Steiner problem	*Calc. Var. Partial Diff. Equations,* **46** (2013), no. 3, 837–860	
7.	E. Paolini, E. Stepanov	Decomposition of acyclic normal currents in a metric space.	*J. Funct. Anal.,* **263** (2012), no. 11, 3358–3390	
8.	E. Stepanov	Rectifiability of metric flat chains and fractional masses	*J. Math. Sciences (N.Y.),* **167** (2010), no. 3, 406–417	
9.	G. Buttazzo, E. Mainini, E. Stepanov	Stationary configurations for the average distance functional and related problems	*Control Cybernet.* **38** (2009), no. 4A, 1107–1130.	
10.	E. Paolini, E. Stepanov	Connecting measures by means of branched transportation networks at finite cost	*J. Math. Sciences (N.Y.),* **157** (2009), no. 6, 858–873	MR 2010m:49066

11.	A. Brancolini, G. Buttazzo, F. Santambrogio, E. Stepanov	Long-term planning versus short-term planning in the asymptotical location problem	*ESAIM: COCV* **15**(2009), no. 3, 509-524	MR 2010e:90063
12.	G. Buttazzo, A. Pratelli, E. Stepanov	Optimal pricing policies for public transportation networks	*SIAM J. Optim.,* **16**(2006), no. 3, 826-853	MR 2006j:49077 Zbl 1093.49030
13.	E. Paolini, E. Stepanov	Optimal transportation networks as flat chains	*Interfaces and Free Boundaries,* **8** (2006), 393-436	MR 2007j:90006
14.	M. Miranda, E. Paolini, E. Stepanov	On one-dimensional continua uniformly approximating planar sets	*Calc. Var. Partial Diff. Equations,* **27** (2006), no. 3, 287-309	MR 2007f:49002
15.	E. Stepanov	Optimization model of transport currents	*J. Math. Sciences (N.Y.),* **135** (2006), no. 6, 3457-3484	MR 2007b:90019
16.	E. Stepanov	Partial geometric regularity of some optimal connected transportation networks	*J. Math. Sciences (N.Y.),* **132** (2006), no. 4, 522-552	MR 2007e:49076
17.	M.E.Drakhlin, E. Litsyn, A. Ponosov, E. Stepanov	Generalizing the property of locality: atomic/coatomic operators and applications	*J. Nonlinear & Convex Anal.,* **7** (2006), no. 2, 139-162	MR 2008b:47058
18.	G. Buttazzo, E. Stepanov	Optimal transportation networks as free Dirichlet regions for the Monge-Kantorovich problem	*Ann. Sc. Norm. Sup. Pisa Cl. Sci,* **II**(2003), no. 4, 631-678	MR 2004i:49080
19.	E. Paolini, E. Stepanov	Qualitative properties of maximum distance minimizers and average distance minimizers in $\mathbf{R}^n$	*J. Math. Sciences (N.Y.),* **122** (2004), no. 3, 105-122	MR 2005f:49097
20.	G. Buttazzo, E. Stepanov	Minimization problems for average distance functionals	Calculus of Variations: Topics from the Mathematical Heritage of Ennio De Giorgi, D. Pallara (ed.), *Quaderni di Matematica*, **14** (2004), 47-83, Seconda Università di Napoli, Caserta	MR 2006b:49089 Zbl 1089.49040
21.	G. Buttazzo, E. Stepanov	Transport density in Monge-Kantorovich problems with Dirichlet conditions	*Discrete and Continuous Dynamical Systems-A,* **12**(2005), no. 4, 607-628	MR 2006a:49068 Zbl 1094.49028
22.	G. Buttazzo,	On regularity of	*SIAM J. Control*	MR 2004i:49063

		transport density in the Monge-Kantorovich problem	*Optim.*, **42**(2003), no. 3, 1044-1055	Zbl 1084.49036
23.	E. Stepanov	Representation of atomic operators and extension problems	*Proc. Edinburgh Math. Soc.*, **47**(2004), 695-707	MR 2006d:47064
24.	G. Buttazzo, E. Oudet, E. Stepanov	Optimal transportation problems with free Dirichlet regions	In series: *Progress in Nonlinear Diff. Equations and their Applications*, Birkhäuser, **51**(2002), 41-65	Zbl 1055.49029
25.	E. Stepanov, P. Tilli	On the Dirichlet problem with several volume constraints on the level sets	*Proc. Royal Soc. Edinburgh*, *Ser. A- Mathematics*, **132**(2002), no. 2, 437-461	MR 2003e:35058 Zbl 1022.35010
26.	M.E.Drakhlin,A. Ponosov, E. Stepanov	On some classes of operators determined by the structure of their memory	*Proc. Edinburgh Math. Soc.*, **45**(2002), no. 2, 467-490	MR 2003g:47114 Zbl 1030.47045
27.	E. Stepanov	Relaxation of optimal control problems with shifted controls	*J. Nonlinear & Convex Anal.*, **3**(2002), no. 2, 207-230	MR 2003g:49027 Zbl 1035.49012
28.	E. Stepanov	Relaxation and convexity of functionals with "pointwise" nonlocality	*Proc. of Amer. Math. Soc.*, **130**(2002), no. 2, 443-452	MR 2002g:49020 Zbl 1005.49006
29.	E. Stepanov, A. Zdorovtsev	Relaxation of some nonlocal integral functionals in weak topologies of Lebesgue spaces	*J. Convex Anal.*, **8**(2001), no. 2, 447-469	MR 2003f:49027 Zbl 1005.49007
30.	L.De Pascale, E. Stepanov	Weak and strong density of compositions	*Trans. of Amer. Math. Soc.*, **352**(2000), no 8, 3707-3721	MR 2000m:47032 Zbl 0947.47017
31.	M.E.Drakhlin, E.Litsyn, E.Stepanov	Variational methods for a class of nonlocal functionals	*Computers and Math. with Appl.*, **37**(1999), no 4/5, 79-100	MR 2000a:49006 Zbl 0944.49013
32.	M.E.Drakhlin, E.Stepanov	Weak convergence of inner superposition operators	*Proc. of Amer. Math. Soc.*, **126**(1998), no 1, 173-179	MR 98c:47038, Zbl 0889.47019
33.	S.A.Vavilov, E.Stepanov	On applicability of the linearization method to compute bifurcation points of a class of operator equations	*Russian Acad. Sci. Dokl. Math.*, **359**(1998), no 3, 298-300 (in Russian). English transl.: *Doklady Math.*, **57**(1998), no 2, 212-214	MR 2000f:47102
34.	E.Stepanov, P.Zecca	Infinite-dimensional topological degree for systems of nonconvex inclusions	*Annali di Matematica Pura ed Applicata*, **174**(1998), no 4, 73-86	MR 2001a:47053

35.	G.Buttazzo, L.Freddi, M.E.Drakhlin, E.Stepanov	Homogenization of optimal control problems for functional-differential equations with deviating argument	*J. Optim.Theory and Appl.*, **93**(1997), no 1, 103–119	MR 98d:49015 Zbl 0944.49014
36.	M.E.Drakhlin, E.Stepanov	Convergence of composition operators and optimal control problems	*J. Nonlinear Analysis-TMA*, **30**(1997), no 1, 505–512	MR 99k:47064 Zbl 0957.47046
37.	M.E.Drakhlin, E.Stepanov	Γ-convergence for a class of functionals with deviating argument	*J. Convex Analysis*, **4**(1997), no 1, 69–89	MR 98j:49022, Zbl. 892.49006
38.	M.E.Drakhlin, E.Stepanov	On weak lower semicontinuity for a class of functionals with deviating argument	*J. Nonlinear Analysis-TMA*, **28**(1997), no 12, 2005–2016.	MR 98b:49015, Zbl. 876.49015
39.	E.Stepanov	Bifurcation from simple eigenvalue for functional differential equations	*Zeitschrift für Analysis und Anwendungen*, **16**(1997), no 3, 543–563	MR 98h:34121, Zbl. 887.34013
40.	E.Stepanov, S.A.Vavilov	On the main problem of external ballistics	*Computers and Math. with Appl.*, **33**(1997), no 5, 95–101	MR 98d:34098, Zbl. 884.70010
41.	E.Stepanov	On solvability of some boundary value problems for differential equations with "maxima"	*Topol. Methods in Nonlinear Analysis*, **8**(1997), no 2, 315–326	MR 99a:34178, Zbl. 980.19797
42.	E.Stepanov, S.A.Vavilov	Turning points and eigenvalue problems	*J. Math. Anal. and Appl.*, **199**(1996), no 3, 699–727	MR 97a:34064, Zbl. 853.34076
43.	E.Stepanov	Topological degree for systems of functional equations arizing in control theory	*Functional Differential Equations*, **3**(1995), no.1-2, 239–255	MR 98j:47147, Zbl. 868.47037
44.	E.Stepanov, S.A.Vavilov	Nonlinear resonance beam oscillations induced by shear forces	*J. Nonlinear Analysis-TMA*, **23**(1994), no 11, 1477–1490	MR 95j:73042, Zbl. 849.73034
45.	V.Parfenov, V.Shashkin, E.Stepanov	Numerical investigation of thermally induced birefringence in optical elements of solid-state lasers	*Applied Optics*, **32**(1993), no 27, 5243–5255	

III. Proceedings of conferences (in inverse chronological order)

NN	Authors	Title	Proceedings	Review
1.	A. Ponosov, E. Stepanov	Invariant measures for generalized random dynamical systems	*International Conference on* Fixed point theory and its applications (Valencia, 2003), G.G. Falset, E.L Fuster, B. Sims (ed.), 227-260, *Yokohama Publ., Yokohama,* 2004	MR 2006d:37096 Zbl 1078.37039
2.	M.E.Drakhlin, E. Litsyn, E.Stepanov	Optimal control problems for some nonlocal differential equations	Proc. 3rd World Congress on Nonlinear Anal, Part 6 (Catania 2000). J. Nonlinear Analysis-TMA, **47** (2001), no. 6, 3897-3904	MR 1972333
3.	M.E.Drakhlin, E.Stepanov	Direct methods of the calculus of variations for functionals with nonlocal transformation of argument	Homogenization and Applications in Material Sciences (Nice, 1995), GAKUTO International Series, Math. Sc. and Appl., **9**(1997), 157-169, Gakkōtosho, Tokyo	MR 99h:49001, Zbl. 980.19252
4.	M.E.Drakhlin, E.Litsyn, E.Stepanov	Calculus of variations and abstract functional differential equations	Proc. of VI International Colloquium on Diff. Equations, Plovdiv	
5.	M.E.Drakhlin, E.Stepanov	Variational methods for functionals with deviating argument	In collection "On the seminar on qualitative theory of differential equations in the Moscow University", in Russian. Differential Equations (Russian), **31**(1995), no 12, 2093-2094	
6.	E.Stepanov	Numerical investigation of influence of photoelastic effect induced by thermal stresses on optical Characteristics of solid-state lasers [1603-94]	Education in Optics, Proc. SPIE **1603**(1992), 585	