

Journal of Advanced Research in Dynamical and Control Systems, 2018, vol.10, N13 Special Issue, pages 598-605

Comprehensive approach to estimation of environmental Hazards of motor transport in industrial city

Suleimanov I., Sadykova A., Sabirov R., Moskova E., Filippov A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2018, Institute of Advanced Scientific Research, Inc.. All rights reserved. In this article the questions of an estimation of an ecological danger level of motor transport in the conditions of an industrial city are considered. The theoretical and practical substantiation of the use of the integrated approach to the estimation of the parameters of the system "Traffic flow-street of industrial city" is presented. The integrated approach proposed in the article is aimed at ensuring objectivity in modelling the process of functioning of motor transport streams in the conditions of an industrial city due to better taking into account the negative ecological effect of the aggregate chemical and energy pollution. A comparative analysis of the organization of traffic in an industrial city on the basis of ecological criteria using classical and complex approaches is presented. The revealed contradictions allowed to prove the adequacy of the proposed provisions concerning the development and application of a new criterion-a complex index of environmental load, which complements the representations of the system "Traffic flow-street of industrial city".

Keywords

A complex approach, Organization of traffic, Polluting background, Street and road network, Street of industrial city, Traffic flow, Transport noise

References

- [1] Starokozheva, E.A. Assessment of the quality of the atmosphere of territorial production complexes / E.A. Starokozheva, L.B. Borisova // Ecology industry in Russia.-2001. - No.1.-P. 23-26.
- [2] Tsytsyra, A.A. Theoretical bases of complex estimation of quality of an atmosphere of streets of an industrial city / A.A. Tsytsyra, E.A. Starokozhev // Bulletin of the Orenburg State University.-2001.-No. 3.-P. 71-77.
- [3] Tsyplakova, E.G. Investigation of the level of pollution from vehicles and its control / E.G. Tsyplakova // Innovations and investments.-2013.-No.8.-P.154-157.
- [4] Volnov, A.S. On the system approach to the assessment of the impact of vehicles in the process of exploitation on the ecology of cities / A.S. Volnov, L.N. Tretyak // Bulletin of the Orenburg State University.-2014.-No. 1.-P. 161-166.
- [5] Trofimenko, Yu.V. Method for assessing the environmental safety of road users / Yu.V. Trofimenko, V.S. Vorozhnin // Transport of the Urals.-2015.-No. 1 (44). P. 73-78.
- [6] Donchenko V., Kunin Y., Ruzski A., Mekhonoshin V., Barishev L., Trofimenko Y. Estimated atmospheric emission from motor transport in Moscow based on transport model of the city. Transportation Research Procedia, 2016, 2649-2658.

- [7] Esfahani, M., Emami, M., Tajnesaei, H. (2013). The investigation of the relation between job involvement and organizational commitment. *Management Science Letters*, 3(2), 511-518.
- [8] Suleimanov I.F., Mavrin G.V., Kharlyamov D.A., Belyaev E.I., Mansurova A.I. Pollution of the Air Basin in the Cities by Motor Transport and the Industrial Enterprises, Quality Assessment of Atmospheric Air with the Use of Calculation Methods and In-strumental Control. *Modern Applied Science*; 2015, vol. 9, no. 4, 12- 20.
- [9] Tahmassebpour, M., & Otaghvari, A. Increase Efficiency Data Processing with Using an Adaptable Routing Protocol on Cloud in Wireless Sensor Networks. *Journal of Fundamental and Applied Sciences*, 2016, Vol. 8 (3S), pp. 2434-2442.
- [10] Suleimanov I.F., Mavrin G.V., Kalimulina M.R., Bondarenko E.V., Kalimullin R.F., Filippov A.A. The use of simulation modeling in traffic flow management. *J. Fundam. Appl. Sci.*, 2017, 9(1S), 1840-1848.
- [11] Suleimanov I.F., Mavrin G.V., Kalimulina M.R., Bondarenko E.V., Kalimullin R.F., Filippov A.A. Assessment of atmospheric pollution in the city of Naberezhnye Chelny with emissions from motor vehicles and industrial enterprises. *J. Fundam. Appl. Sci.*, 2017, 9(2S), 1059-1066.