

## List of publications of Igor V. Tarasyuk

In the following list there is also an information (abbreviated below the items) about foundations supported the research with numbers of the corresponding grants, see Curriculum Vitae.

### Books

1. TARASYUK I.V. *Equivalences for behavioural analysis of concurrent and distributed computing systems*. 321 pages, Academic Publisher “Geo”, Novosibirsk, Russia, 2007 (ISBN 978-5-9747-0098-9, in Russian), <http://itar.iis.nsk.su/files/itar/pages/moncovcnt.pdf>.

### Book chapters

1. TARASYUK I.V. *Stochastic Petri nets: a formalism for modeling and performance analysis of computing processes*. *System Informatics* **9**, pages 135–194, SB RAS Publisher, Novosibirsk, Russia, 2004 (ISBN 5-7692-0700-0, in Russian), <http://itar.iis.nsk.su/files/itar/pages/spnsinf.pdf>, <http://itar.iis.nsk.su/files/itar/pages/spnsi.pdf>.

### Theses and their abstracts

1. TARASYUK I.V. *Transformation formulas of algebra  $AFP_2$  into canonical form*. *Bachelor’s Thesis*, Chair of Computing Systems, Department of Mathematics and Mechanics, Novosibirsk State University, 47 pages, Novosibirsk, Russia, 1992 (in Russian), <http://itar.iis.nsk.su/files/itar/pages/dipwork.pdf>.
2. TARASYUK I.V. *Equivalences on Petri nets*. *Master’s Thesis*, Chair of Computing Systems, Department of Mathematics and Mechanics, Novosibirsk State University, 71 pages, Novosibirsk, Russia, 1994 (in Russian), <http://itar.iis.nsk.su/files/itar/pages/thesmst.pdf>.
3. TARASYUK I.V. *Equivalence notions for models of concurrent and distributed systems*. *Abstract of Ph.D. thesis*, 19 pages, Institute of Informatics Systems, Novosibirsk, Russia, 1997 (in Russian), <http://itar.iis.nsk.su/files/itar/pages/aurefphd.pdf>.
4. TARASYUK I.V. *Equivalence notions for models of concurrent and distributed systems*. *Ph.D. thesis*, 191 pages, Institute of Informatics Systems, Novosibirsk, Russia, 1997 (in Russian), <http://itar.iis.nsk.su/files/itar/pages/thesphd.pdf>.
5. TARASYUK I.V. *Equivalences for concurrent and distributed systems. A survey of dissertation*. *Berichte aus dem Fachbereich Informatik* **9/99**, 77 pages, Carl von Ossietzky Universität Oldenburg, Germany, September 1999 (ISSN 1867-9218), <http://itar.iis.nsk.su/files/itar/pages/thphdeng.pdf>.  
DAAD A/98/38518

### Journals

1. TARASYUK I.V. *An investigation of equivalence notions on some subclasses of Petri nets*. *Bulletin of the Novosibirsk Computing Center, Series Computer Science* **3**, pages 89–101, Computing Center SB RAS, Novosibirsk, Russia, 1995 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/invstncc.pdf>, <http://bulletin.iis.nsk.su/files/article/tarasyuk1.pdf>, <http://www.sccc.ru/BNCC/cs3u.html>. Zentralblatt Math indexed. RSCI indexed.  
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2. TARASYUK I.V. *An algebra of labelled nondeterministic processes*. *Joint Novosibirsk Computing Center and Institute of Informatics Systems Bulletin, Series Computer Science* **5**, pages 83–100, Novosibirsk, Russia, 1996 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/aflp2ncc.pdf>, [http://bulletin.iis.nsk.su/files/article/tarasyuk\\_3.pdf](http://bulletin.iis.nsk.su/files/article/tarasyuk_3.pdf). Zentralblatt Math indexed. RSCI indexed.  
VS I/70 564, RFBR 96-01-01655
3. VIRBITSKAITE I.B., BOZHENKOVA E.N., VOTINTSEVA A.V., POKOZY E.A., TARASYUK I.V. *Development and investigation of semantic methods and tools of specification and verification of concurrent systems and processes*. *RFBR Information Bulletin* **4(1)**, pages 682–682, Russian Foundation for Basic Research, Nauchnyj Mir, Moscow, Russia, 1996 (ISBN 5-89176-001-0, in Russian), <http://itar.iis.nsk.su/files/itar/pages/VBVPT96.htm>. RSCI indexed.  
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4. TARASYUK I.V. *Equivalences for behavioural analysis of multilevel systems. Joint Novosibirsk Computing Center and Institute of Informatics Systems Bulletin, Series Computer Science* **7**, pages 57–84, Novosibirsk, Russia, 1997 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/eqbfpncc.pdf>, [http://bulletin.iis.nsk.su/files/article/tarasyuk\\_4.pdf](http://bulletin.iis.nsk.su/files/article/tarasyuk_4.pdf). Zentralblatt Math indexed. RSCI indexed.  
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5. VIRBITSKAITE I.B., TARASYUK I.V. *Investigating equivalence notions for time Petri nets. Logic Journal of the Interest Group in Pure and Applied Logics* **5(6)**, pages 921–923, Oxford University Press, November 1997 (ISSN 1367-0751), [http://itar.iis.nsk.su/files/itar/pages/LJIGPL5\(6\)921-923.pdf](http://itar.iis.nsk.su/files/itar/pages/LJIGPL5(6)921-923.pdf), <http://jigpal.oxfordjournals.org/content/vol5/issue6/index.dtl>. JCR impact factor (2010): 0.458. SJR indicator (2006): 0.407.  
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6. TARASYUK I.V. *Equivalence notions applied to designing concurrent systems with the use of Petri nets. Programming and Computer Software* **24(4)**, pages 162–175, Pleiades Publishing, Ltd., July – August 1998 (ISSN 0361-7688), <http://itar.iis.nsk.su/files/itar/pages/pcs98.pdf>. JCR impact factor (1999): 0.013. SJR indicator (1999): 0.117.  
VS I/70 564, INTAS-RFBR 95-0378, FPYS SB RAS
7. TARASYUK I.V. *Place bisimulation equivalences for design of concurrent and sequential systems. Proceedings of 23<sup>rd</sup> International Symposium on Mathematical Foundations of Computer Science - 98 (MFCS'98), Workshop on Concurrency (P. Jancar, M. Kretinský, eds.), Brno, Czech Republic, August 27–29, 1998, Electronic Notes in Theoretical Computer Science* **18**, pages 191–206, Elsevier, 1998 (ISSN 1571-0661), DOI: 10.1016/S1571-0661(05)80260-9, <http://itar.iis.nsk.su/files/itar/pages/equpltcs.pdf>, <http://itar.iis.nsk.su/files/itar/pages/ENTCS-18-016.pdf>. Scopus indexed. SJR indicator (1999): 0.333.  
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8. TARASYUK I.V. *Notions of equivalence for development of concurrent systems with use of Petri nets. Programming* **4**, pages 19–39, MAIK Nauka / Interperiodica, Moscow, Russia, 1998 (ISSN 0132-3474, in Russian), <http://itar.iis.nsk.su/files/itar/pages/desgnpro.pdf>. RSCI impact factor (2008): 0.406.  
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9. VIRBITSKAITE I.B., TARASYUK I.V. *Equivalence notions and refinement for timed Petri nets. Joint Novosibirsk Computing Center and Institute of Informatics Systems Bulletin, Series Computer Science* **8**, pages 57–79, Novosibirsk, Russia, 1998 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/eqtimmcc.pdf>, [http://bulletin.iis.nsk.su/files/article/virbickayte\\_3.pdf](http://bulletin.iis.nsk.su/files/article/virbickayte_3.pdf). Zentralblatt Math indexed. RSCI indexed.  
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10. TARASYUK I.V.  *$\tau$ -equivalences for analysis of concurrent systems modeled by Petri nets with silent transitions. Joint Novosibirsk Computing Center and Institute of Informatics Systems Bulletin, Series Computer Science* **12**, pages 47–51, Novosibirsk, Russia, 1999 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/eqtbrncc.pdf>, [http://bulletin.iis.nsk.su/files/article/tarasyuk\\_5.pdf](http://bulletin.iis.nsk.su/files/article/tarasyuk_5.pdf). RSCI indexed.  
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11. BUCHHOLZ P., TARASYUK I.V. *Net and algebraic approaches to probabilistic modeling. Joint Novosibirsk Computing Center and Institute of Informatics Systems Bulletin, Series Computer Science* **15**, pages 31–64, Novosibirsk, Russia, 2001 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/spnpancc.pdf>, <http://bulletin.iis.nsk.su/files/article/buchholz.pdf>. Zentralblatt Math indexed. RSCI indexed.  
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12. TARASYUK I.V. *Logical characterization of probabilistic  $\tau$ -bisimulation equivalences. Joint Novosibirsk Computing Center and Institute of Informatics Systems Bulletin, Series Computer Science* **20**, pages 97–111, Novosibirsk, Russia, 2004 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/prlogncc.pdf>, <http://bulletin.iis.nsk.su/files/article/tarasyukc.pdf>. Zentralblatt Math indexed. RSCI indexed.

13. BUCHHOLZ P., TARASYUK I.V. *Equivalences for stochastic Petri nets and stochastic process algebras*. *Vestnik, Quartal Journal of Novosibirsk State University, Series: Mathematics, Mechanics, Informatics* **6(1)**, pages 14–42, Novosibirsk State University, Novosibirsk, Russia, 2006 (ISSN 1818-7897, in Russian), <http://itar.iis.nsk.su/files/itar/pages/spnpavst.pdf>, <http://itar.iis.nsk.su/files/itar/pages/vestnik06.pdf>. RSCI impact factor (2008): 0.046.
14. TARASYUK I.V. *Iteration in discrete time stochastic Petri box calculus*. *Bulletin of the Novosibirsk Computing Center, Series Computer Science, IIS Special Issue* **24**, pages 129–148, NCC Publisher, Novosibirsk, Russia, 2006 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/dtsitncc.pdf>, [http://bulletin.iis.nsk.su/files/article/tarasyuk\\_2.pdf](http://bulletin.iis.nsk.su/files/article/tarasyuk_2.pdf). Zentralblatt Math indexed. RSCI indexed.
15. TARASYUK I.V. *Stochastic Petri box calculus with discrete time*. *Fundamenta Informaticae* **76(1–2)**, pages 189–218, IOS Press, Amsterdam, The Netherlands, February 2007 (ISSN 0169-2968), <http://itar.iis.nsk.su/files/itar/pages/dtspbcfi.pdf>. JCR impact factor (2007): 0.693. SJR indicator (2007): 0.540.
16. TARASYUK I.V. *A notion of congruence for dtsPBC*. *Bulletin of the Novosibirsk Computing Center, Series Computer Science, IIS Special Issue* **28**, pages 121–141, NCC Publisher, Novosibirsk, Russia, 2008 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/dtcgncc.pdf>, [http://bulletin.iis.nsk.su/files/article/tarasyuk\\_1.pdf](http://bulletin.iis.nsk.su/files/article/tarasyuk_1.pdf). Zentralblatt Math indexed. RSCI impact factor (2008): 0.087.  
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17. TARASYUK I.V. *Modeling and performance analysis of concurrent processes in the algebra dtsPBC*. *Vestnik, Quartal Journal of Novosibirsk State University, Series: Mathematics, Mechanics, Informatics* **9(4)**, pages 90–117, Novosibirsk State University, Novosibirsk, Russia, 2009 (ISSN 1818-7897, in Russian), <http://itar.iis.nsk.su/files/itar/pages/dtspbcvst.pdf>, <http://itar.iis.nsk.su/files/itar/pages/vestnik09.pdf>. RSCI impact factor (2009): 0.035.  
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18. TARASYUK I.V. *Performance preserving equivalences for dtsPBC*. *Bulletin of the Novosibirsk Computing Center, Series Computer Science, IIS Special Issue* **31**, pages 155–178, NCC Publisher, Novosibirsk, Russia, 2010 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/dtspenc.pdf>, [http://bulletin.iis.nsk.su/files/article/tarasyuk\\_0.pdf](http://bulletin.iis.nsk.su/files/article/tarasyuk_0.pdf). Zentralblatt Math indexed. RSCI impact factor (2010): 0.541.  
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19. TARASYUK I.V. *Performance evaluation of the generalized shared memory system in dtsPBC*. *Bulletin of the Novosibirsk Computing Center, Series Computer Science, IIS Special Issue* **32**, pages 127–155, NCC Publisher, Novosibirsk, Russia, 2011 (ISSN 1680-6972), <http://itar.iis.nsk.su/files/itar/pages/dtsgsmcc.pdf>, <http://bulletin.iis.nsk.su/files/article/tarasyuk.pdf>. Zentralblatt Math indexed. RSCI impact factor (2011): 0.013.  
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20. TARASYUK I.V. *Behavioural equivalences of Petri nets with invisible transitions*. *Vestnik SibSUTI* **3**, pages 105–135, Siberian State University of Telecommunications and Information Sciences, Novosibirsk, Russia, 2012 (ISSN 1998-6920, in Russian), <http://itar.iis.nsk.su/files/itar/pages/eqtauvsgt.pdf>, [http://vestnik.sibsutis.ru/uploads/1354079288\\_3692.pdf](http://vestnik.sibsutis.ru/uploads/1354079288_3692.pdf). RSCI impact factor (2012): 0.101.  
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21. TARASYUK I.V., MACIÀ S.H., VALERO R.V. *Discrete time stochastic Petri box calculus with immediate multiactions dtsiPBC*. *Proceedings of 6<sup>th</sup> International Workshop on Practical Applications of Stochastic Modelling - 12 (PASM'12) and 11<sup>th</sup> International Workshop on Parallel and Distributed Methods in Verification - 12 (PDMC'12)* (J. Bradley, K. Heljanko, W. Knottenbelt, N. Thomas, eds.), London, UK, September 2012, *Electronic Notes in Theoretical Computer Science* **296**, pages 229–252, Elsevier, August 2013 (ISSN 1571-0661), DOI: 10.1016/j.entcs.2013.07.015, <http://itar.iis.nsk.su/files/itar/pages/dtsipbcentcs.pdf>. Scopus indexed. SJR indicator (2013): 0.334.  
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22. TARASYUK I.V. *Equivalence relations for modular performance evaluation in dtsPBC*. *Mathematical Structures in Computer Science* **24(1)**, pages 78–154 (e240103), Cambridge University Press, Cambridge, UK, February 2014 (ISSN 0960-1295), DOI: 10.1017/S0960129513000029, <http://itar.iis.nsk.su/files/itar/pages/dtsdphms.pdf>. JCR impact factor (2014): 0.449. SJR indicator (2014): 0.386.  
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23. TARASYUK I.V., MACIÀ S.H., VALERO R.V. *Performance analysis of concurrent systems in algebra dtsiPBC*. *Programming* **40(5)**, pages 3–27, MAIK Nauka / Interperiodica, Moscow, Russia, September 2014 (ISSN 0132-3474, in Russian), <http://itar.iis.nsk.su/files/itar/pages/dtsialtpro.pdf>. RSCI impact factor (2012): 0.333.  
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24. TARASYUK I.V., MACIÀ S.H., VALERO R.V. *Performance analysis of concurrent systems in algebra dtsiPBC*. *Programming and Computer Software* **40(5)**, pages 229–249, Pleiades Publishing, Ltd., September 2014 (ISSN 0361-7688), DOI: 10.1134/S0361768814050089, <http://itar.iis.nsk.su/files/itar/pages/pcs14.pdf>. JCR impact factor (2014): 0.191. SJR indicator (2014): 0.328.  
Spanish Government TIN2012-36812-C02-02, DFG BE 1267/14-1, RFBR 14-01-91334
25. TARASYUK I.V., MACIÀ S.H., VALERO R.V. *Stochastic process reduction for performance evaluation in dtsiPBC*. *Siberian Electronic Mathematical Reports* **12**, pages 513–551, Sobolev Institute of Mathematics, Novosibirsk, Russia, September 2015 (ISSN 1813-3304), DOI: 10.17377/semi.2015.12.044, <http://itar.iis.nsk.su/files/itar/pages/dtsipbcsemr.pdf>, <http://semr.math.nsc.ru/v12/p513-551.pdf>. Scopus, Zentralblatt Math indexed. SJR indicator (2015): 0.475.  
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26. TARASYUK I.V., BUCHHOLZ P. *Bisimulation for fluid stochastic Petri nets*. *Bulletin of the Novosibirsk Computing Center, Series Computer Science, IIS Special Issue* **38**, pages 121–149, NCC Publisher, Novosibirsk, Russia, 2015 (ISSN 1680-6972), DOI: 10.31144/bncc.cs.2542-1972.2015.n38.p121-150, <http://itar.iis.nsk.su/files/itar/pages/fspneqnc.pdf>, <http://bulletin.iis.nsk.su/files/article/fspneqnc.pdf>. Zentralblatt Math indexed. RSCI impact factor (2014): 0.190.  
DFG BE 1267/14-1, RFBR 14-01-91334
27. MACIÀ S.H., VALERO R.V., CUARTERO G.F., RUIZ D.M.C., TARASYUK I.V. *Modelling a video conference system with sPBC*. *Applied Mathematics and Information Sciences* **10(2)**, pages 475–493, Natural Sciences Publishing, New York, NY, USA, March 2016 (ISSN 1935-0090). DOI: 10.18576/amis/100210, <http://itar.iis.nsk.su/files/itar/pages/amis16.pdf>. JCR impact factor (2013): 1.232. SJR indicator (2016): 0.220.  
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28. TARASYUK I.V., BUCHHOLZ P. *Equivalences for fluid stochastic Petri nets*. *Siberian Electronic Mathematical Reports* **14**, pages 317–366, S.L. Sobolev Institute of Mathematics, Novosibirsk, Russia, April 2017 (ISSN 1813-3304), DOI: 10.17377/semi.2017.14.029, <http://itar.iis.nsk.su/files/itar/pages/fspneqsemr.pdf>, <http://semr.math.nsc.ru/v14/p317-366.pdf>. Web of Science, Scopus, Zentralblatt Math indexed. SJR indicator (2017): 0.339.  
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29. TARASYUK I.V., MACIÀ S.H., VALERO R.V. *Stochastic equivalence for performance analysis of concurrent systems in dtsiPBC*. *Siberian Electronic Mathematical Reports* **15**, pages 1743–1812, S.L. Sobolev Institute of Mathematics, Novosibirsk, Russia, December 2018 (ISSN 1813-3304), DOI: 10.33048/semi.2018.15.144, <http://itar.iis.nsk.su/files/itar/pages/dtsipbcseqsemr.pdf>, <http://semr.math.nsc.ru/v15/p1743-1812.pdf>. Web of Science, Scopus, Zentralblatt Math indexed. SJR indicator (2018): 0.412.  
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30. TARASYUK I.V., BUCHHOLZ P. *Logical characterization of fluid equivalences*. *Siberian Electronic Mathematical Reports* **16**, pages 826–862, S.L. Sobolev Institute of Mathematics, Novosibirsk, June 2019 (ISSN 1813-3304), DOI: 10.33048/semi.2019.16.055, <http://itar.iis.nsk.su/files/itar/pages/fspneqlogsemr.pdf>, <http://semr.math.nsc.ru/v16/p826-862.pdf>. Web of Science, Scopus, Zentralblatt Math indexed. SJR indicator (2019): 0.350.  
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31. TARASYUK I.V. *Discrete time stochastic and deterministic Petri box calculus dtsdPBC*. *Siberian Electronic Mathematical Reports* **17**, pages 1598–1679, S.L. Sobolev Institute of Mathematics, Novosibirsk, October 2020 (ISSN 1813-3304), DOI: 10.33048/semi.2020.17.112, <http://itar.iis.nsk.su/files/itar/pages/dtsdpbcodesemr.pdf>, <http://semr.math.nsc.ru/v17/p1598-1679.pdf>. Web of Science, Scopus, Zentralblatt Math indexed. SJR indicator (2020): 0.468.
32. TARASYUK I.V. *Performance evaluation in stochastic process algebra dtsdPBC*. *Siberian Electronic Mathematical Reports* **18(2)**, pages 1105–1145, S.L. Sobolev Institute of Mathematics, Novosibirsk, October 2021 (ISSN 1813-3304), DOI: 10.33048/semi.2021.18.085, <http://itar.iis.nsk.su/files/itar/pages/dtsdpbcpevsemr.pdf>, <http://semr.math.nsc.ru/v18/n2/p1105-1145.pdf>. Web of Science, Scopus, Zentralblatt Math indexed. SJR indicator (2021): 0.516.
33. TARASYUK I.V. *Performance preserving equivalence for stochastic process algebra dtsdPBC*. *Siberian Electronic Mathematical Reports* **20(2)**, pages 646–699, S.L. Sobolev Institute of Mathematics, Novosibirsk, July 2023 (ISSN 1813-3304), DOI: 10.33048/semi.2023.20.039, <http://itar.iis.nsk.su/files/itar/pages/dtsdpbcpeqsemr.pdf>, <http://semr.math.nsc.ru/v20/n1/p646-699.pdf>. Web of Science, Scopus, Zentralblatt Math indexed. SJR indicator (2023): 0.465.

### Conference proceedings

1. TARASYUK I.V. *An investigation of net equivalences*. *Proceedings of 4<sup>th</sup> International Conference on Applied Logics (AL'95)* (Yu.L. Ershov, S.S. Goncharov, A.V. Mantsivoda, eds.), Irkutsk, Russia, June 15–17, 1995, pages 74–75, The State High Education Committee of Russian Federation, Irkutsk State University, Irkutsk, Russia, 1995 (UDK 518, in Russian), <http://itar.iis.nsk.su/files/itar/pages/invstcnf.pdf>.  
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2. TARASYUK I.V. *Petri net equivalences for design of concurrent systems*. *Proceedings of 5<sup>th</sup> Workshop on Concurrency, Specification and Programming - 96 (CS&P'96)* (L. Czaaja, P. Starke, H.-D. Burkhard, M. Lenz, eds.), Berlin, Germany, September 25–27, 1996, *Informatik-Berichte* **69**, pages 190–204, Institut für Informatik, Humboldt-Universität zu Berlin, Berlin, Germany, 1996 (ISSN 0863-095), <http://itar.iis.nsk.su/files/itar/pages/desgncnf.pdf>.  
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4. VIRBITSKAITE I.B., TARASYUK I.V. *Investigating equivalence notions for time Petri nets*. *Abstracts of 4<sup>th</sup> Workshop on Logic, Languages, Information and Computation - 97 (WoLLIC'97)* (R.J.G.B. de Queiroz, M. Pequeno, eds.), Fortaleza (Ceará), Brazil, August 19–22, 1997, Gráfica JB Ltda., Paraíba, Brazil, 1997, <http://itar.iis.nsk.su/files/itar/pages/eqtimbrz.pdf>.  
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5. TARASYUK I.V.  *$\tau$ -equivalences for analysis of concurrent systems modeled by Petri nets with silent transitions*. *Abstracts of 3<sup>rd</sup> Siberian Congress on Applied and Industrial Mathematics - 98 (INPRIM'98), devoted to the memory of S.L. Sobolev* (O.L. Bandman, V.S. Belonosov, V.L. Vaskevich, I.A. Eganova, A.M. Matsokin, I.V. Pottosin, V.P. Shapeev, A.A. Egorov, eds.), Novosibirsk, Russia, June 22–27, part **5**, pages 56–56, S.L. Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia, 1998 (ISBN 5-86134-050-1), <http://itar.iis.nsk.su/files/itar/pages/eqtauipr.pdf>.  
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6. TARASYUK I.V. *Place bisimulation equivalences for design of concurrent systems*. *Pre-proceedings of 23<sup>rd</sup> International Symposium on Mathematical Foundations of Computer Science - 98 (MFCS'98), Workshop on Concurrency* (P. Janchar, M. Kretinský, eds.), Brno, Czech Republic, August 27–29, 1998, *FIMU Report Series FIMU-RS-98-06*, pages 184–198, Faculty of Informatics, Masaryk University, July 1998, <http://itar.iis.nsk.su/files/itar/pages/equplwsh.pdf>.  
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