

PETRO MYKHAILOVYCH GUDIVOK

Mykhailo Babych, Vitaliy M. Bondarenko, Yuriy Drozd,
Vladimir Kirichenko, Ihor Shapochka

ABSTRACT. We present a brief scientific biography
of Professor Petro M. Gudivok.

Petro M. Gudivok was born in the small village of Lavky, near Mukachevo (Czechoslovakia, now Ukraine) in a large peasant family. His childhood coincided with the difficult war period and the early postwar years, making him accustomed from an early age to the hard peasant labor and responsibility for himself and his family. He has graduated from the Mukachevo Secondary School No. 2, having studied there with great and talented teachers. They have developed the boy's remarkable abilities, wit and inquiring mind, as well as nurtured his love for the Queen of Sciences, Mathematics, that would become his life calling.

In 1953, having graduated from the Secondary School with high honors, Petro M. Gudivok has started his undergraduate studies at the Mathematics Department of Uzhhorod State University, where he has achieved his first scientific results under the guidance of Samuil D. Berman. In 1958, after graduating with honors from Uzhhorod State University, he has worked for one year as an assistant at the



Petro M. Gudivok
(April 12, 1936 – June 11, 2012)

Chair of General Mathematics and in 1959 he started his graduate studies under the supervision of the young and extremely talented algebraist Samuil D. Berman. The range of research interests of Samuil D. Berman during this period included one of the most promising parts of algebra — group representation theory. Petro M. Gudivok has made a significant contribution to this theory.

Starting in September of 1962, Petro M. Gudivok has occupied various teaching positions at the Uzhhorod State University while at the same time continuing with active research work. In 1963 he has defended his Candidate Thesis "Representations of finite groups over some local rings" at the Leningrad State Pedagogical Institute, followed by the defence of his Doctoral Thesis "Representations of finite groups over local rings" at the Leningrad State University in 1975. From 1980 until the last days of his life Petro M. Gudivok was the Head of the Chair of Algebra of the Uzhhorod National University. From 1986 till 1992 he occupied the position of the Dean of the Department of Mathematics at the Uzhhorod State University. Petro M. Gudivok died on June 11, 2012, after a long-lasting illness.

Petro M. Gudivok has developed the theory of representations of finite groups over commutative local rings, created effective methods for the study of the representations of finite groups over discrete valuation rings, resolved a number of known problems on the number and degrees of nonequivalent irreducible and indecomposable matrix representations of finite groups over commutative local rings, on the wildness of the problem of description of nonequivalent matrix representations of finite groups over complete discrete valuation rings, on the reasonableness of the Krull-Schmidt theorem for representations of finite groups over discrete valuation rings.

Together with Vyacheslav P. Rud'ko he has obtained fundamental results on tensor products of representations of finite groups over commutative rings. They have also solved the problem on semisimplicity of the algebra of representations of finite groups over P -adic integers over an arbitrary field.

Petro M. Gudivok has successfully applied his methods from the theory of representations of finite groups over commutative rings to the study of linear groups over principal ideal domains, multi-dimensional crystallographic groups and Chernikov groups. He has solved the problem of conjugation of Sylow p -subgroups of the general linear group over the ring of integers, showed that the problem of describing up to an isomorphism the n -dimensional crystallographic groups for an arbitrary natural n is wild. He has presented numerous reports at international congresses of

mathematicians and at international and national conferences. He was one of the leaders of research projects on the theory of representations of groups and their applications that were carried out jointly between the V. M. Glushkov Institute of Cybernetics and the Institute of Mathematics of the National Academy of Sciences of Ukraine. Petro M. Gudivok published more than 170 scientific papers and four monographs [1, 2, 3, 4] on the theory of representations of finite groups over commutative rings and their applications.

In addition to his prolific research work, the scientist was also actively engaged in teaching and especially in finding and engaging talented students in research. Professor Petro M. Gudivok has served as an advisor on twelve Candidate of Science theses, while three of his students became Doctors of Science.

Petro M. Gudivok has put a lot of effort and energy into his scientific and organizational work: he was a member of the Scientific Council on thesis defence at the Institute of Mathematics of the National Academy of Sciences of Ukraine, as well as serving as an opponent and reviewer of many Candidate and Doctoral theses in algebra, organizing a number of conferences and seminars on algebra at the Uzhhorod National University and serving as the chief editor of the "Scientific Bulletin of the Uzhhorod University. Series Mathematics and Informatics" journal.

Scientific achievements of Professor Petro M. Gudivok have received a high public and social recognition. He was awarded the title of Honorary Worker of Education of Ukraine (1991), was elected Academician of the Higher School of Ukraine (1992), received the title of Soros Professor (1997). In 2005 for his many years of productive scientific and educational work Petro M. Gudivok was awarded the title of Honored Professor of the Uzhhorod National University.

The cherished memory of Petro M. Gudivok will forever remain in the minds and hearts of his colleagues, students, family and friends. May he rest in peace on his native Transcarpathian land.

List of Petro M. Gudivok's key publications

- [1] P. M. Gudivok, *Integral representations of finite groups*, Uzhgorod. Univ., 1978.
- [2] P. M. Gudivok, V. P. Rud'ko, *Tensor products of representations of finite groups*, Uzhgorod. Univ., 1985.
- [3] P. M. Gudivok, *Representations of finite groups over commutative local rings*, Uzhgorod. Nat. Univ., 2003.
- [4] P. M. Gudivok, V. P. Rud'ko, V. A. Bovdi, *Crystallographic groups*, Uzhgorod. Nat. Univ., 2006.

- [5] P. M. Gudivok, *On isomorphism of group algebras of cyclic extensions of supersoluble groups*, Dokl. i Soobshch. Uzhgorod. Univ., Ser. Phis.-Mat. Nauk, **3**, 1960, pp. 58–59.
- [6] P. M. Gudivok, *On integral representations of a finite group with noncyclic Sylow p -subgroup*, Uspekhi Mat. Nauk, **16**, No. 2, 1961, pp. 229–230.
- [7] S. D. Berman, P. M. Gudivok, *Integral representations of finite groups*, Dokl. Akad. Nauk SSSR, **145**, 1962, pp. 1199–1201.
- [8] P. M. Gudivok, *On p -adic integral representations of finite groups*, Dokl. Uzhgorod Univ. Ser. Phys.-Math. Nauk, **5**, 1962, pp. 81–82.
- [9] P. M. Gudivok, *On relation of orders of conjugacy classes and degrees of absolutely irreducible representations for certain classes of groups*, Izv. vuzov "Matematika", **2**, 1963, pp. 44–52.
- [10] S. D. Berman, P. M. Gudivok, *Indecomposable representations of finite groups over the ring of p -adic integers*, Izv. Akad. Nauk SSSR Ser. Mat., **28**, 1964, pp. 875–910.
- [11] P. M. Gudivok, V. S. Drobotenko, A.I. Lichtman, *On representations of finite groups over the ring of residue classes mod m* , Ukrain. Mat. Zh., **16**, 1964, pp. 82–89.
- [12] P. M. Gudivok, *On representations of finite groups over some local rings*, Dopovidi Akad. Nauk URSR, **2**, 1964, pp. 173–176.
- [13] P. M. Gudivok, *Representations of finite groups over quadratic rings*, Dokl. Akad. Nauk SSSR, **6**, 1964, pp. 1210–1213.
- [14] P. M. Gudivok, *Representations of finite groups over local number rings*, Dopovidi Akad. Nauk URSR, **8**, 1966, pp. 979–981.
- [15] P. M. Gudivok, V. P. Rud'ko *On p -adic integral representations of the cyclic p -group*, Dopovidi Akad. Nauk URSR, **9**, 1966, pp. 1111–1113.
- [16] P. M. Gudivok, V. S. Drobotenko *Extensions of divisible abelian groups by a cyclic group*, Dopovidi Akad. Nauk URSR, **10**, 1966, pp. 1239–1242.
- [17] P. M. Gudivok, *Representations of finite groups over number rings*, Izv. Akad. Nauk SSSR, **4**, 1967, pp. 799–834.
- [18] L. F. Barannik, P. M. Gudivok, *On projective representations of finite groups over rings*, Dopovidi Akad. Nauk URSR Ser. A, **4**, 1968, pp. 294–297.
- [19] L. F. Barannik, P. M. Gudivok, *On indecomposable projective representations of finite groups*, Dopovidi Akad. Nauk URSR Ser. A, **5**, 1969, pp. 391–393.
- [20] P. M. Gudivok, E.Ya. Pogorilyak, *The Krull-Schmidt theorem for group representations over P -integer number rings*, Mat. Zametki, **7**, 1970, pp. 125–135.
- [21] L. F. Barannik, P. M. Gudivok, *Projective representations of finite groups over number rings*, Mat. Sbornik, **82**, 1970, pp. 423–443.
- [22] P. M. Gudivok, *The boundedness of the degrees of indecomposable modular representations of finite groups over principal ideal domains*, Dopovidi Akad. Nauk URSR Ser. A, **8**, 1971, pp. 683–685.
- [23] P. M. Gudivok, S. F. Goncharova, V. P. Rud'ko *On the algebra of integral p -adic representations of a finite group*, Dokl. Akad. Nauk SSSR, **198**, 1971, pp. 509–512.
- [24] P. M. Gudivok, *On the Krull-Schmidt theorem for 2-integer rational representations of 2-group*, Dopovidi Akad. Nauk URSR Ser. A, **2**, 1972, pp. 112–114.

- [25] L. F. Barannik, P. M. Gudivok, *On algebra of projective integral representations of finite groups*, Dopovidi Akad. Nauk URSS Ser. A, **4**, 1972, pp. 291–293.
- [26] P. M. Gudivok, *On the number of indecomposable integral p -adic representations of twisted group rings*, Mat. Sbornik, **91**, 1973, pp. 27–49.
- [27] P. M. Gudivok, V. P. Rud'ko *On modular and integral representation algebras of finite groups*, Izv. Akad. Nauk SSSR, **37**, 1973, pp. 963–987.
- [28] P. M. Gudivok, S. F. Goncharova, V. P. Rud'ko *Finite-dimensional algebras of integral P -adic representations of a finite group*, Mat. Sbornik, **94**, 1974, pp. 358–384.
- [29] P. M. Gudivok, *Some observations on integral representations of finite groups*, Ukrain. Mat. Zh., **26**, 1974, pp. 539–545.
- [30] P. M. Gudivok, *On modular and integral representations of finite groups*, Dokl. Akad. Nauk SSSR, **214**, 1974, pp. 993–996.
- [31] L. F. Barannik, P. M. Gudivok, *On the number of indecomposable integral representations of twisted group rings of finite groups and rings of p -adic integers*, Math. Collect., Acad. Sci. Ukr. SSR, Inst. Math., 1976, pp. 164–167.
- [32] P. M. Gudivok, *On modular and integral P -adic representations of the direct product of groups*, Ukrain. Mat. Zh., **29**, 1977, pp. 580–588.
- [33] P. M. Gudivok, *On representations of a direct product of groups over complete discrete valuation rings*, Dokl. AN SSSR, **237**, 1977, pp. 25–27.
- [34] P. M. Gudivok, *On representations of finite groups over complete discrete valuation rings*, Trudy Mat. Inst. Steklova, **148**, 1978, pp. 96–105.
- [35] L. F. Barannik, P. M. Gudivok, *Crossed group rings of finite groups and rings of p -adic integers with finitely many indecomposable integral representations*, Mat. Sbornik, **108**, 1979, pp. 187–211.
- [36] P. M. Gudivok, A. A. Kirilyuk, *The Sylow p -subgroups of the general linear group over discrete valuation rings*, Dopovidi Akad. Nauk URSS Ser. A, **5**, 1979, pp. 326–328.
- [37] P. M. Gudivok, E. Ya. Pogorilyak, *On representations of finite groups over some local rings*, Dopovidi Akad. Nauk URSS Ser. A, **5**, 1981, pp. 326–328.
- [38] P. M. Gudivok, S. F. Goncharova, V. P. Rud'ko, *On tensor products of integral p -adic representations of finite groups*, Ukrain. Mat. Zh., **4**, 1982, pp. 688–694.
- [39] P. M. Gudivok, A. A. Kirilyuk, V. P. Rud'ko, A. I. Tsitkin, *On finite subgroups of $GL(n, \mathbb{Z})$* , Kibernetika, **6**, 1982, pp. 71–82.
- [40] A. A. Bovdi, P. M. Gudivok, M. S. Semirov, *Normal group rings*, Ukrain. Mat. Zh., **4**, 1982, pp. 688–694.
- [41] V. F. Barannik, P. M. Gudivok, V. P. Rud'ko, *On tensor products of representations of finite groups over complete discrete valuation rings*, Dopovidi Akad. Nauk URSS Ser. A, **4**, 1985, pp. 9–12.
- [42] P. M. Gudivok, Yu. V. Kapitonova, *On finite irreducible subgroups of $GL(n, \mathbb{Z})$* , Kibernetika, **5**, 1986, pp. 1–16.
- [43] P. M. Gudivok, F. G. Vashchuk, *Integral p -adic representations of finite abelian p -groups*, Dopovidi Akad. Nauk URSS Ser. A, **1**, 1986, pp. 3–6.

- [44] P. M. Gudivok, T. M. Sapuzhak, *Irreducible representations of finite groups over principal ideal domains*, Dopovidi Akad. Nauk URSS Ser. A, **6**, 1987, pp. 3–6.
- [45] P. M. Gudivok, V.P. Rud'ko, *On tensor products of irreducible representations of finite groups over complete discrete valuation rings*, Rings and moduls. Limited theorems of probability theory, Leningrad. Univ., 1988, pp. 50–68.
- [46] P. M. Gudivok, E.Ya. Pogorilyak, *Representations of finite p -groups over local rings of positive characteristic*, Dopovidi Akad. Nauk URSS Ser. A, **2**, 1989, pp. 5–8.
- [47] P. M. Gudivok, Yu. V. Kapitonova, S. S. Polyak, V. P. Rud'ko, A.I. Tsitkin, *Conjugacy classes of a unitriangular group*, Kibernetika, **1**, 1990, pp. 40–48.
- [48] P. M. Gudivok, E.Ya. Pogorilyak, *On modular representations of finite groups over integral domains*, Trudy Mat. Ins. Akad Nauk SSSR, **183**, 1990, pp. 78–86.
- [49] P. M. Gudivok, V. M. Oros, A. V. Roiter, *On representations of finite groups over a ring of formal power series with p -adic integer coefficients*, Dokl. Akad. SSSR, **314**, 1990, pp. 49–52.
- [50] P. M. Gudivok, *On Sylow p -subgroups of the general linear group over the ring of integers*, Algebra i Analiz, **2**, 1990, pp. 125–131.
- [51] P. M. Gudivok, *On Sylow p -subgroups of the general linear group over the complete discrete valuation rings*, Ukrain. Mat. Zh., **43**, 1991, pp. 918–924.
- [52] A. F. Barannik, P. M. Gudivok, *The ring of projective integral p -adic representations of a finite group*, Mat. Zbirnik Mat. Prats Lviv. Mat. Tov., **1**, 1991, pp. 44–54.
- [53] P. M. Gudivok, *On representations of finite groups over some factorial rings*, Cont. Math., **131**, 1992, pp. 173–181.
- [54] P. M. Gudivok, V. M. Oros, A. V. Roiter, *On representations of finite p -groups over a ring of formal power series with p -adic integer coefficients*, Ukrain. Mat. Zh., **44**, 1992, pp. 753–765.
- [55] P. M. Gudivok, F. G.Vashchuk, V. S.Drobotenko, *Chernikov p -groups and integral p -adic representations of finite groups*, Ukrain. Mat. Zh., **44**, 1992, pp. 742–753.
- [56] P. M. Gudivok, V. P. Rud'ko, *On isomorphism of Sylow p -subgroups of general linear group over the ring of integers*, Dopovidi Akad. Nauk Ukraini, **9**, 1992, pp. 3–5.
- [57] P. M. Gudivok, V. P. Rud'ko, *On tensor products of representations of finite groups over some complete local rings*, Dopovidi Akad. Nauk Ukraini, **8**, 1993, pp. 5–7.
- [58] P. M. Gudivok, *On the equivalence of matrix over commutative rings*, Infinite groups and related algebraic structures, Institut Matematiki AN Ukrainy, 1993, pp. 431–437.
- [59] V. M. Bondarenko, P. M. Gudivok, *On representations of finite p -groups over a ring of formal power series with p -adic integer coefficients*, Infinite groups and related algebraic structures, Institut Matematiki AN Ukrainy, 1993, pp. 5–14.
- [60] V. F. Barannik, P. M. Gudivok, V. P. Rud'ko, *On tensor products of irreducible integral P -adic representations of finite p -groups*, Nauk. Visnik Uzhgorod. Univ. Ser. Mat., **1**, 1994, pp. 5–13.

- [61] P. M. Gudivok, I. V. Shapochka, *On extensions of abelian groups*, Dopovidi Nats. Akad. Nauk Ukraini, **2**, 1995, pp. 8–9.
- [62] P. M. Gudivok, V. P. Rud'ko, *On Sylow subgroups of the general linear group over integral domains*, Dopovidi Nats. Akad. Nauk Ukraini, **8**, 1995, pp. 5–7.
- [63] P. M. Gudivok, V. I. Pogorilyak, *On indecomposable representations of finite p -groups over commutative local rings*, Dopov. Akad. Nauk Ukr., **5**, 1996, pp. 7–11.
- [64] P. M. Gudivok, V. S. Drobotenko, *Samuil Davidovich Berman*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. **2**, 1997, pp. 4–11.
- [65] P. M. Gudivok, V. P. Rud'ko, *Irreducible Sylow p -subgroups of general linear groups over the ring of integers*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. **2**, 1997, pp. 29–37.
- [66] P. M. Gudivok, T. M. Sapuzhak, *Irreducible representations of finite groups over p -adic quadratic rings*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. **2**, 1997, pp. 38–44.
- [67] P. M. Gudivok, I. V. Shapochka, *On the wildness of the description problem for some classes of groups*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. **3**, 1998, pp. 69–77.
- [68] P. M. Gudivok, O. A. Tylyshchak, *On the irreducible modular representations of finite p -groups over commutative local rings*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. **3**, 1998, pp. 78–83.
- [69] P. M. Gudivok, M. G. Ivanov, *On the irreducible matrix representations of finite p -groups over local factorial rings*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. **3**, 1998, pp. 84–88.
- [70] P. M. Gudivok, *On representations of twisted group rings of finite groups over rings of p -adic integers*, Dopov. Nats. Akad. Nauk Ukr., Mat. Pryr. Tekh. Nauky, **7**, 1998, pp. 19–23.
- [71] P. M. Gudivok, V. I. Pogorilyak, *On indecomposable matrix representations of finite p -groups over commutative local rings of characteristic p^s* , Nauk. Visn. Uzhgorod. Univ., Ser. Mat., **4**, 1999, pp. 43–46.
- [72] P. M. Gudivok, I. P. Sygetij, I. B. Chukhraj, *On the number of matrix representations of fixed degree of a finite p -group over some commutative rings of characteristic p^s* , Nauk. Visn. Uzhgorod. Univ., Ser. Mat., **4**, 1999, pp. 47–53.
- [73] P. M. Gudivok, I. V. Shapochka, *On the Chernikov p -groups*, Ukrain. Mat. Zh., **51**, No. 3, 1999, pp. 291–304.
- [74] P. M. Gudivok, I. B. Chukhraj, *On the number of indecomposable matrix representations of given degree of a finite p -group over commutative local rings of characteristic p^s* , Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **5**, 2000, pp. 33–40.
- [75] P. M. Gudivok, I. V. Shapochka, *On the irreducible matrix representations of finite 2-groups over local factorial rings*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **5**, 2000, pp. 103–105.
- [76] P. M. Gudivok, I. B. Chukhraj, *On the number of nonequivalent indecomposable matrix representations of the given degree of a finite p -group over commutative local ring of characteristic p^s* , An. Științ. Univ. "Ovidius" Constanța, Ser. Mat., **8**, no. 2, 2000, pp. 27–36.
- [77] P. M. Gudivok, V. P. Rud'ko, *On isomorphism of Sylow subgroups of the general linear group over the ring of integers*, J. Math. Sci., New York, **102**, No. 3, 2000, pp. 3998–4008.

- [78] P. M. Gudivok, V. P. Rud'ko, N. V. Yurchenko, *On Sylow p -subgroups of the general linear group over a principal ideal domain*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **6**, 2001, pp. 31–46.
- [79] V. A. Bovdi, P. M. Gudivok, V. P. Rud'ko, *Torsion-free groups with indecomposable holonomy group. I*, J. Group Theory, **5**, No. 1, 2002, pp. 75–96.
- [80] P. M. Gudivok, V. I. Pogorilyak, *Matrix representations of finite p -groups over commutative local rings of characteristic p^s* , Ukrain. Mat. Zh. **54**, No. 6, 2002, pp. 764–770.
- [81] V. A. Bovdi, P. M. Gudivok, V. P. Rud'ko, *On torsion-free crystallographic groups with indecomposable point groups*, Ukrainian mathematical congress – 2001, Kyiv, Ukraine, August 21–23, 2001. Proceedings. Section 1. Algebra and number theory, Instytut Matemat. NAN Ukrainy, 2002, pp. 5–18.
- [82] P. M. Gudivok, *On development of the theory of representations of finite groups in Uzhgorod university*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **7**, 2002, pp. 4–15.
- [83] L. F. Barannik, P. M. Gudivok, *On linearization of projective representations of finite groups over commutative rings*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **7**, 2002, pp. 21–27.
- [84] P. M. Gudivok, A. A. Kirilyuk, *On minimal irreducible subgroups of a general linear group over the ring of P -adic integers*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **7**, 2002, pp. 37–43.
- [85] P. M. Gudivok, V. P. Rud'ko, N. V. Yurchenko, *On minimal irreducible subgroups of general linear group over a field*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **8**, pp. 28–42.
- [86] V. A. Bovdi, P. M. Gudivok, V. P. Rud'ko, *Torsion-free crystallographic groups with indecomposable holonomy group. II*, J. Group Theory, **7**, No. 4, 2004, pp. 555–569.
- [87] P. M. Gudivok, O. V. Yakima, *On similarity of matrices over commutative rings*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **9**, pp. 100–102.
- [88] P. M. Gudivok, *On representations of a direct product of finite groups over complete discrete valuation rings*, Ukr. Mat. Visn., **2**, No. 1, 2005, pp. 65–73.
- [89] P. M. Gudivok, S. P. Kindyukh, *On matrix representations of finite p -groups over some integral domains of characteristic zero*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **10–11**, 2005, pp. 49–56.
- [90] P. M. Gudivok, S. P. Kindyukh, *On matrix representations of finite p -groups over local integral domains of characteristic zero*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **12–13**, 2006, pp. 59–64.
- [91] P. M. Gudivok, M. P. Zheliznyak, *On indecomposable matrix representations of finite p -groups over local integral domains of characteristic zero*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **14–15**, 2007, pp. 22–32.
- [92] P. M. Gudivok, A. A. Kirilyuk, An. A. Kirilyuk, *Irreducible finite nilpotent groups*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **14–15**, 2005, pp. 33–40.
- [93] P. M. Gudivok, M. P. Zheliznyak, *On indecomposable matrix representations of finite 2-groups over local integral domains of characteristic zero*, Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf., **17**, 2008, pp. 91–94.

- [94] P. M. Gudivok, S. P. Kindyukh, *On wild finite 2-group over local integral domain of characteristic zero*, *Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf.*, **18**, 2009, pp. 54–61.
- [95] P. M. Gudivok, A. A. Kirilyuk, An. A. Kirilyuk, V. P. Rud'ko, *R-crystallographic groups*, *Nauk. Visn. Uzhgorod. Univ., Ser. Mat. i Inf.*, **21**, 2010, pp. 45–60.

CONTACT INFORMATION

- M. Babych** Chair of Intellectual Information Technologies,
Department of International Economics and
Management, Ukrainian State University of Fi-
nance and International Trade, Chygorin Street
57, Kyiv, Ukraine 01601
E-Mail: myhailo.babych@gmail.com
- V. M. Bondarenko** Institute of Mathematics, National Academy of
Sciences of Ukraine, Tereshchenkivska 3, 01601
Kyiv, Ukraine
E-Mail: vit-bond@imath.kiev.ua
URL: <http://www.imath.kiev.ua>
- Yu. Drozd** Institute of Mathematics, National Academy of
Sciences of Ukraine, Tereshchenkivska 3, 01601
Kyiv, Ukraine
E-Mail: y.a.drozd@gmail.com,
drozd@imath.kiev.ua
URL: www.imath.kiev.ua/~drozd
- V. V. Kirichenko** Department of Geometry, School of Mechan-
ics and Mathematics, Kyiv National Taras
Shevchenko University, Volodymyrska, 64, Kyiv,
01033, Ukraine
E-Mail: vkir@univ.kiev.ua
- I. Shapochka** Chair of Algebra, Department of Mathematics,
Uzhhorod National University, Universitetska
str, 14, 88000, Uzhhorod, Ukraine
E-Mail: kaf-algebra@uzhnu.edu.ua
URL: uzhnu.edu.ua

Received by the editors: 17.10.2013
and in final form 03.11.2013.