BIBLIOGRAPHY FOR NEARRINGS AND DESIGN THEORY

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The following documents are to my best knowledge the state of the art in the literature, up to 1996. Please forward all new references to me for inclusion in the bibliography. It may be of interest to make an annotated bibliography, perhaps discussing the history of the field, but that must wait for another time.

References

[1] J. Andre. Projektive Ebenen über Fastkörpern. *Math Z.*, 62:137–160, 1955.

[2] J. Andre. Lineare Algebra über Fastkörpern. *Math Z.*, 136:295–313, 1974.

[3] J. Andre. Affine Algebra über Fastkörpern. *Seminer Gieŝen*, 114:1–99, 1975.

[4] J. Andre. Bemerkungen über Fastvektorräume. *FU-Berlin, Lenz Festband*, pages 28–36, 1976.

[5] J. Andre. Some topics on linear algebra over nearfields. *Oberwolfach*, 1976.

[6] J. Andre. Non–commutative geometry, nearrings and nearfields. In G. Betsch, editor, *Nearrings and Nearfields*, pages 1–14. North–Holland, 1987.

[7] J. Andre. On finite noncommutative spaces over certain nearrings. In *Contributions to General Algebra 8*, pages 5–14. Hölder–Pichler–Tempsky, Vienna and Teubner, Stuttgart, 1992.

[8] Joseph Angerer. *Radikale kleiner Fastringe.* PhD thesis, Johannes–Kepler Uni. Linz, 1978.

[9] M. Anshel and J. Clay. Planar algebraic systems. *J. Algebra*, 10:166–173, 1968.

[10] M. Anshel and J. Clay. Planarity in algebraic systems. *Bull. Amer. Math. Soc.*, 74:746–748, 1968.

[11] N. Armentrout, F.L. Hardy, and C.J. Maxson. On generalised affine planes. *J. Geometry*, 1:143–159, 1974.

[12] Nancy Armentrout. *On nearrings associated with generalised affine planes.* PhD thesis, Texas A & M, 1971.

[13] A. Behboud. *Planar abgeschlossene Theorien von Fastkörpern.* PhD thesis, Univ. Hamburg, 1989.

[14] Kostia I. Beidar, Yuen Fong, and Wen-Fong Ke. On the circularity of finite planar nearrings. *submitted*, 19XX.

[15] Walter Benz. *Vorlesungen über Geometrie der Algebren.* Springer Verlag, 1973.

[16] Th. Beth, D. Jungnickel, and H. Lenz. *Design Theory.* B.I. Wissenschaftsverlag, 1985.

[17] Gerhard Betsch and James R. Clay. Block designs from Frobenius groups and planar nearrings. In *Proc. Conf. Finite Groups*, pages 473–502. Acad. Press, 1976.

[18] I-Hsing Chen. *Some combinatorial structures arising from finite planar nearrings.* PhD thesis, National Chiao Tung Univ., Hsinchu, 1991.

[19] James R. Clay. The introduction of the double planar nearring. Manuscript.

[20] James R. Clay. On some geometry of Mersenne primes. submitted.

[21] James R. Clay. Some geometric interpretations of planar nearrings. In *Oberwolfach*, 1968.

[22] James R. Clay. Some algebraic aspects of planarity. In *Atti del Convengo di Geometrica Combinatoria e sue applicationi, Univ. degli Studi, Perugia*, pages 163–172, 1971.

[23] James R. Clay. Generating balanced incomplete blaock designs from planar nearrings. *J. Algebra*, 22:319–331, 1972.

[24] James R. Clay. Generating balanced incomplete block designs from planar nearrings. In *Oberwolfach*, 1972.

[25] James R. Clay. Lectures on nearrings. Manuscript, 1980.

[26] James R. Clay. Suggested directions for future research in nearrings. In *San Benedetto del Tronto*, 1981.

[27] James R. Clay. More balanced incomplete block designs from Frobenius groups. *Discrete Math 59*, pages 229–234, 1986.

[28] James R. Clay. Applications of planar nearrings to geometry and combinatorics. *Res. Math.*, 12:71–85, 1987.

[29] James R. Clay. Circular block designs from planar nearrings. *Ann. Discrete Math*, 37:95–105, 1988.

[30] James R. Clay. Geometric and combinatorial ideas related to circular planar nearrings. *Bull. Inst. Math. Acad. Sinica*, 16:275–283, 1988.
[31] James R. Clay. Tactical configurations from a planar nearring can also generate balanced incomplete blck designs. *J. Geometry*, 32:13–20, 1988.
[32] James R. Clay. An unexpected group isomorphism yields a surprising affine plane and more. *Contrib General Algebra*, 7:71–74, 1991.
[33] James R. Clay. Circular planar nearrings with applications. In *Proc. Kaist Math. Workshop Korea*, pages 149–177, 1992.
[34] James R. Clay. Compound closed chains in circular planar nearrings. *Ann. Discrete Math.*, 52:93–106, 1992.
[35] James R. Clay. *Nearrings: Geneses and applications*. Oxford, 1992.
[36] James R. Clay. Geometry in fields. *Algebra Colloquium*, 1:289–304, 1994.
[37] James R. Clay and Helmut J. Karzel. Tactical configurations derived from groups having a group of fixed point free automorphisms. *J. Geometry*, 27:60–68, 1986.
[38] James R. Clay and Hubert Kiechle. Linear codes from planar nearrings and Möbius planes. *Algebras Groups and Geometries*, 10:333–344, 1993.
[39] James R. Clay and Andies P.J. van der Walt. Planar nearrings having affine configurations with two pencils. submitted.
[40] Roland Eggetsberger. Codes from field generated finite planar nearrings. Master's thesis, Johannes–Kepler Uni. Linz, 1992.
[41] Roland Eggetsberger. Some topics in Frobenius groups, BIB–designs and coding theory. In *Contrib Gen Algebra 8*, pages 44–56, 1992.
[42] Roland Eggetsberger. Codes from some residue class ring generated finite planar nearrings. Manuscript, 1993.
[43] Roland Eggetsberger. On codes from residue class ring generated finite Ferrero pairs. In *Proc. Nearrings and Nearfields Conference*, pages 113–122. Kluwer Acad Publishers, 1993.
[44] Giovanni Ferrero. Stems planari e BIB–disegni. *Riv. Mat. Univ. Parma*, 2:79–96, 1970.
[45] Giovanni Ferrero. Sui moltiplicatori (nel senso di Hall) a sui desegni ricchi di moltiplicatori. In *Atti Conv Geom. Comb. Appl. Perugia*, pages 233–237, 1970.
[46] Giovanni Ferrero. Qualche disegno geometrico. *La Matematiche(Catania)*, 26:356–377, 1971.
[47] Giovanni Ferrero. Applicazioni geometriche degli stems planari. In *Oberwolfach*, 1972.
[48] Giovanni Ferrero. Deformazioni, raffinamente e composizioni di funzioni di Steiner. *Riv. Mat. Univ. Parma (3)*, 1, 1972.
[49] Giovanni Ferrero. Gruppi di Steiner e sistemi finiti. *Le Matematiche*, 27, 1972.
[50] Giovanni Ferrero. Su certe geometrie gruppali naturali. *Riv. Mat. Univ. Parma*, 3:97–111, 1972.
[51] Giovanni Ferrero. Su una classe di nuovi disegni. *Ist. Lombardo Accad. Sci. Lett. Rend. A*, 106:419–430, 1972.
[52] Giovanni Ferrero. Sui gruppi che ammettono funzioni di Steiner. *Rend. Ist. di Matem. Univ. Trieste*, 4:1–15, 1972.
[53] Giovanni Ferrero. Su un problema relativo ai sistemi di Steiner disgiunti. *Rend. Ist. di Mat. Univ. Trieste*, 7:1–7, 1975.
[54] Giovanni Ferrero. On a geometrical interpretation of distributivity. In *Oberwolfach*, 1976.
[55] Celestina Ferrero-Cotti. Radicali in ausi–anelli planari. *Riv. Mat. Univ. Parma*, 12:237–239, 1986.
[56] Celestina Ferrero-Cotti and Silvia Pellegrini. On the homomorphic images of planar nearrings. In *Atti del Congresso su "Systemi binari e loro applicazioni"*, 1978.
[57] Peter Fuchs. A decoding method for planar nearring codes. *Riv Mat. Univ. Parma*, 17:325–331, 1991.
[58] Peter Fuchs, Gerhard Hofer, and Gunter Pilz. Codes from planar nearrings. *IEEE Trans on Information Theory*, 36:647–651, 1990.
[59] Giordino Gallina. H–estensioni, elevazioni di quasi–corpi ed S–quasi–anelli. Manuscript.
[60] Giordino Gallina. Some equivalence relations for nearrings. *Riv. Mat. Univ. Parma*, 10:1–5, 1984.
[61] Giordino Gallina. Generalisations of strongly monogenic nearrings. *Riv. Mat. Univ. Parma*, 12:31–34, 1986.
[62] Giordino Gallina. On the structure of some nearrings. *Rend Sci. Mat. Appl. Lombardo*, 121:73–90, 1987.
[63] Detlef Gröger. Einbettbarkeit von reel–bewerteten Fastkörpern in planare. *Beiträge zur Geometrie und Algebra*, 8, 1982.
[64] Detlef Gröger. Über angeordnete Fastkörper. *Beiträge zur Geometrie und Algebra*, 7, 1982.
[65] Detlef Gröger. Embeddings of nearfields with real valuations into planar nearfields. *Results in Math.*, 7:58–62, 1984.

[66] Helmut Karzel and Alan Oswald. Nearrings (MDS–) and Laguerre codes. *J. of Geometry*, 37:105–117, 1990.
[67] Wen-Fong Ke. On nonisomorphic BIBD with identical parameters. In A. Barlotti, editor, *Combinatorics 90*, pages 337–346, 1992.
[68] Wen-Fong Ke. *Structures of Circular Planar Nearrings*. PhD thesis, Univ. Arizona, Tucson, 1992.
[69] Wen-Fong Ke and Hubert Kiechle. Combinatorial properties of ring generated circular planar nearrings. submitted.
[70] Wen-Fong Ke and Hubert Kiechle. Automorphims of certain design groups. *J. Algebra*, 167:488–500, 1994.
[71] Wen-Fong Ke and Hubert Kiechle. Characterisation of some finite Ferrero pairs. In *Proc Nearrings and Nearfields Conference, Frederiction 1993*, pages 153–162. Kluwer, 1995.
[72] Wen-Fong Ke and Hubert Kiechle. On the solutions of the equation $x^m + y^m - z^m = 1$ in a finite field. *Proc AMS*, to appear.
[73] Wen-Fong Ke and K.S. Wang. On the Frobenius group with kernel of order 64. *Contrib General Algebra*, 7:221–233, 1991.
[74] William E. Kerby. Angeordnete Fastkörper. *Abh. Math. Sem. Univ. Hamburg*, 32:135–146, 1968.
[75] William E. Kerby. Projektive und nicht–projektive Fastkörper. *Abh. Math. Sem. Univ. Hamburg*, 32:20–24, 1968.
[76] William E. Kerby. Nonstandard methods in the theory of nearfields. In *Conf Nearrings and Nearfields, Harrisonburg*, 1983.
[77] Hubert Kiechle. Affine configurations sharing pencils of lines. In G. Pilz, editor, *Contrib Gen Alg 8*, pages 111–116, 1992.
[78] Hubert Kiechle. Points on Fermat curves over finite fields. *Contemporary Math*, 168:181–183, 1994.
[79] Günter Kist. Punktiert–affine Incidenzgruppen und Fastkörpererweiterungen. *Abh. Math. Sem. Univ. Hamburg*, 44:233–248, 1975.
[80] Emanuel Kolb. On planar local nearrings and Bacon spreads. In *Proc Nearrings and Nearfields Conference, Frederiction 1993*, pages 161–168. Kluwer, 1995.
[81] Joachim Küsel. *Archimedische Anordnung in Fastringen*. PhD thesis, Univ. Bremen, 1972.
[82] Donald A. Lawver. Cocyclic planar nearrings. *Acta Math., Acad Sci. Hunger.*, 26:87–90, 1975.
[83] Carlton J. Maxson. Kernels of generalized translation structures with operators. In *Conf Nearrings and Nearfields, Harrisonburg*, pages 28–33, 1983.
[84] Carlton J. Maxson. Nearrings associated with Sperner spaces. *J Geometry*, 20:128–154, 1983.
[85] Carlton J. Maxson. Geometry and nearrings. Manuscript, 1985.
[86] Carlton J. Maxson. Nearrings associated with generalised translation structures. *J. Geometry*, 24:175–193, 1985.
[87] Carlton J. Maxson. Nearrings associated with covered groups. In Gerhard Betsch, editor, *Nearrings and Nearfields*, pages 167–174, 1987.
[88] Carlton J. Maxson and Alan Oswald. Kernels of fibered groups with operators. *Arch. math*, to appear.
[89] Carlton J. Maxson and Gunter Pilz. Nearrings determined by fibered groups. *Arch Math*, 44:311–318, 1985.
[90] Carlton J. Maxson and Gunter Pilz. Kernels of covered groups. *Res. Math*, 16:140–154, 1989.
[91] Matthew Clayton Modisett. *A characterisation of the circularity of certain Balanced Incomplete Block Designs*. PhD thesis, Univ. of Arizona, Tucson, 1988.
[92] Matthew Clayton Modisett. A characterisation of the circularity of certain Balanced Incomplete Block Designs. *Utilitas Math.*, 35:83–94, 1989.
[93] H.H. Ney. Planar nearrings and their relations to some noncommutative spaces. In *Conf. Nearrings and Nearfields, Harrisonburg*, page 47, 1983.
[94] H.H. Ney. Anshel–clay nearrings and semiaffine parallelogramspaces. In *Proc. Nearrings and Nearfields Conference, Fredericton, 1983*, pages 203–208. Kluwer, 1995.
[95] Silvia Pellegrini. On the S–nearfields. In *San Benedetto del Tronto*, 1981.
[96] Silvia Pellegrini. Sulla planarita di sottostems di stems planari. *Riv. Mat. Univ. Parma*, 7:245–249, 1981.
[97] Gunter Pilz. On the structure of planar nearrings. Technical Report 79, Mathematics, Univ Linz, 1977.
[98] Gunter Pilz. Codes, block designs, Frobenius groups and nearrings. In A. Barlotti, editor, *Proc. Combibnatorics 90, Gaeta (Italy)*, pages 471–476. Elsevier, 1992.
[99] R.W. Quackenbush. Near vector spaces over $GF(q)$ and $(v, q+1, 1)$–BIBDs. *Lin. Alg. and its Applications*, 10:259–266, 1975.

[100] Rosemarie Rink. Eine Klasse topologischer Fastkörperebenen. *Geom. Dedicata*, 19:311–351, 1985.

[101] Maic Sasso-Sant. Nichkommutative Räume und Fastringe. Master's thesis, Saarbrücken, 1986.

[102] Maic Sasso-Sant. Noncommutative spaces and nearrings including PBIBDs, planar nearrings and noncommutative geometry. In G. Betsch, editor, *Nearrings and Nearfields*, pages 245–252. North–Holland, 1987.

[103] Raffaele Scapellato. On geometric nearrings. *Boll. Un. Mat. Ital.*, 2–A:389–393, 1983.

[104] Raffaele Scapellato. On geometric nearrings. In G. Betsch, editor, *Nearrings and Nearfields*, pages 253–254. North–Holland, 1987.

[105] Raffaele Scapellato. Strongly monogenic nearrings. *Arch. Math.*, 51:476–480, 1988.

[106] Yong-Sian So. Polynomial nearfields ? *Pac. J. Math.*, 96:213–223, 1981.

[107] Mirela Stefanescu and Claudiu Volf. On planar nearrings.

[108] George Szeto. Finite nearrings with trivial annihilators. *J. Austral. Math. Soc.*, 18:194–199, 1974.

[109] George Szeto. Planar and strongly uniform nearrings. *PAMS*, 44:269–274, 1974.

[110] George Szeto. The automorphism group of a class of semigroups. *Monatsh. Math.*, 83:53–58, 1977.

[111] Edmund Theobald. Nearrings and noncommutative geometry. In *San benedetto del Tronto*, pages 211–218, 1981.

[112] Edmund Theobald. Nichtkommutative Geometrie über Fastringen. Master's thesis, Universität Saarbrücken, 1981.

[113] Jürgen Timm. Zur Theorie der nicht notwendig assoziativen Fastringen. *Abh. Math. Sem. Univ. Hamburg*, 35:14–32, 1970.

[114] Andries P.J. van der Walt. Prime ideals and nil radicals in nearrings. *Arch. Math. (Basel)*, 15:408–414, 1964.

[115] Gerhard Wagner. On constructing BIB–designs and constant weight codes from nearfield–generated planar nearrings. Master's thesis, Johannes–Kepler Univ. Linz, 1992.

[116] Heinz Wähling. Beispiel eines projektiven Fastkörpers mit nichtprojektiven Teilfastkörpern. *Arch. Math.*, 28:393–394, 1977.

[117] Heinz Wähling. *Theorie der Fastkörper*. Thales Verlag, Essen, 1987.

[118] Heinrich Wefelscheid. Zur planarität von K–T–Fastkörpern. *Arch.Math. (Basel)*, 36:302–304, 1981.

[119] Joseph L. Zemmer. Nearfields, planar and nonplanar. *The Math. Student*, 31:145–150, 1964.