

REFERENCES

- Adhikari, Avishek; Bose, Mausumi; Kumar, Dewesh and Roy, Bimal (2007). *Applications of partially balanced incomplete block designs in developing $(2, n)$ visual cryptographic schemes*. *IEICE Trans. Fundamentals* E90-A(5).
- Adhikary, B. (1966). *Some types of PBIB association schemes*. *Calcutta Statist. Assoc. Bull.* 15, 47-74.
- Adhikary, B. (1972a). *Method of group differences for the construction of three associate cyclic designs*, *J. Indian Soc. Agric. Statist.* 24, 1–18.
- Adhikary, B. (1972b). *A note on restricted Kronecker product method of constructing statistical designs*. *Calcutta Statist. Assoc. Bull.* 21, 193–196.
- Adhikary, B. (1973). *On generalized group divisible designs*. *Calcutta Statist. Assoc. Bull.* 22, 75–88.
- Afsarinejad, K. (1990). *Repeated measurements designs—a review*. *Commun. Statist. Theor. Meth.* 19:3985–4028.
- Aggarwal, M. L. and Jha, M. K (2006). *Some New Series of Partially Balanced Residual Treatment Effects Designs*. *Communication in Statistics- Theory and Methods.* 35: 1477-1482.
- Aggarwal, M. L., Jha, M. K. (2001). *Some optimal balanced residual treatment effects designs*. *J. Soc. Statist. Comput. Appl.* 3:201–208.
- Aggarwal, M. L., Jha, M. K. (2009). *Construction of residual treatment effects designs for comparing test treatment with a control*. *Communications in Statistics-Theory and Methods.* 38, 2567-2577.

- Aggarwal, M.L., Deng, Lih Yuan and Jha, Mithilesh Kumar (2004). *Some new residual treatment effects designs for comparing test treatment with a control*. Journal of applied statistics, Vol. 31 No. 9, 1065 – 1081.
- Archbold, J.W. and Johnson, N.L. (1956). *A method of constructing partially balanced incomplete block designs*. Ann. Math. Statist. 27, 624–632.
- Bechhofer, R.E. and Tamhane, A.C. (1981). *Incomplete block designs for comparing treatments with a control*. General theory, Technometrics 23, 45–57.
- Bhagwandas, Banerjee, S. and Kageyama, S. (1985). *Patterened construction of partially balanced incomplete block designs*. Comm. Statist. Theory Meth. A, 14, 1259-1267.
- Biswas, N. and Raghavarao, D. (1998). *Construction of rectangular and group divisible partially balanced residual effects designs by the method of differences*. J. Comb. Inform. System Sci. 23 , pp. 135-141.
- Blaisdell, E. A. and Raghavarao D. (1980). *Partially Balanced Change-over Designs Based on m-Associate Class PBIB Designs*. J. R. Statist. Soc. B. 42: 334-338.
- Bose, R.C. (1939). *On construction of Balanced Incomplete Block Designs*. The Annals of Eugenics. IX, Part-3, 353-399.
- Bose, R.C. (1942). *A note on the resolvability of balanced incomplete designs*, Sankhy.a 6, 105–110.
- Bose, R.C. (1949). *A note on Fisher's inequality for balanced incomplete block designs*. Ann. Math. Statist. 20, 619–620.
- Bose, R.C. (1963). *Strongly regular graphs, partial geometries and partially balanced designs*. Pacific J. Math. 13, 389–419.

- Bose, R.C. (1977). *Symmetric group divisible designs with the dual property*. *J. Statist. Plan. Inf.* 1, 87–101.
- Bose, R.C. and Connor, W.S. (1952). *Combinatorial properties of group divisible incomplete block designs*. *Ann. Math. Statist.*, 23, 367-383.
- Bose, R.C. and Laskar, R. (1967). *A characterization of tetrahedral graphs*. *J. Comb. Theory.* 2, 366-385.
- Bose, R.C. and Mesner, D.M. (1959). *On linear associative algebras corresponding to association schemes of partially balanced design*. *Ann. Math. Statist.*, 30, 21-38.
- Bose, R.C. and Nair, K.R. (1939). *Partially balanced incomplete block designs*. *Sankhya*.a 4, 337–372.
- Bose, R.C. and Nair, K.R. (1962). *Resolvable incomplete block designs with two replications*. *Sankhya*.a 24A, 9–24.
- Bose, R.C. and Shimamoto, T. (1952). *Classification and analysis of partially balanced incomplete block designs with two associates classes*. *J. Amer. Statist. Assoc.*, 47, 151-187.
- Bose, R.C. and Shrikhande, M.S. (1979). *On a class of partially balanced incomplete block designs*. *J. Statist. Plan. Inf.* 3, 91–99.
- Butler, N. A. (2008). *Schur- and E-optimal two-level factorial designs*. *Statist. Probab. Lett.* 78:518–527.
- Causey, B. D. (1968). *Some examples of multi-dimensional incomplete block designs*. *The Annals of Mathematical Statistics* 39(5) 1577-1590.
- Chandak, M.L. (1980). *On the block structure of PBIB designs*. *Internat. J. Math. & Math Sci.* 3(1) 169-175.

- Cheng, C.-S. and Wu, C.-F. (1980). *Balanced repeated measurements designs*. Ann. Statist. 8, 1272–1283.
- Cheng, C.-S. and Wu, C.-F. (1980). *Corrections to balanced repeated measurements designs*. Annals of Statistics. 11, 349.
- Clatworthy, W. H. (1973). *Tables of Two- Associate-Class Partially Balanced Design*. National Bureau of Standards, Applied Mathematics 63, Washington, D. C.
- Cochran, W. G. (1939). *Long-term agricultural experiments*. J. Roy. Statist. Soc. Suppl. 6 104–148.
- Cochran, W. G., Autrey, K. M. and Canon, C. Y. (1941). *A double change-over design for dairy cattle feeding experiments*. J. Dairy Sci. 24 937–951.
- Das A, Dey A, Dean A (1998). *Optimal design for diallel cross experiments*. Statist Prob Lett 36:427–436
- Das, M.N. and Giri, N.C.(1986). *Design and Analysis of Experiments*. Wiley Eastern Limited, New Delhi.
- Dey A, Midha, C.K. (1996). *Optimal designs for diallel crosses*. Biometrika 83(2): 484–489.
- Dey, A (1977). *Construction of Regular Group Divisible Design*. Biometrika, 64, 647-649.
- Dey, A (1986). *Theory of Block Designs*. Wiley Eastern Limited, New Delhi.
- Dey, A. and Midha, C.K. (1974). *On a class of PBIB designs*. Sankhya 36B, 320-322.
- Dey, A., Midha, C.K. and Trivedi, H.T. (1974). *On construction of group divisible and rectangular designs*. J. Indian Soc. Agric. Statist. 26, 14-18.

- Finney, D. J. (1956). *Cross-over designs in bioassay*. Proc. Roy. Soc. London Ser. B 145 42–61.
- Freeman, G.H. (1956). *Some further methods of constructing regular group divisible incomplete block designs*. Ann. Math. Statist. 28 (2) 479-487.
- Freeman, G.H. (1976a). *Incomplete block designs for three or four replicates of many treatments*. Biometrics 32, 519–528 (Correction: Biometrics 33, 766).
- Freeman, G.H. (1976b). *A cyclic method of constructing regular group divisible incomplete block designs*. Biometrika 63, 555–558.
- Ghosh, D. K. and Das, M. N. (1993). *Construction of two way group divisible designs with partial balance for group comparisons*. Sankhya 55 111-117.
- Ghosh, D. K. and Divecha, Jyoti (1995). *Some new semi-regular GD designs*. Sankhya 57 453-455.
- Giovagnoli, A., Wynn, H. P. (1981). *Optimum continuous block designs*. Proc. Roy. Soc. Lond. A 377:405–416.
- Giovagnoli, A., Wynn, H. P. (1985). *Schur-optimal continuous block designs for treatments with a control*. In: Lucien, M. Le Can, Olshen, R. A., eds. Proc. Berkeley Conf. Honor of Jerzy Neyman and Jack Kiefer, Vol. II. Monterey, CA: Wadsworth, pp. 651–666.
- Griffing B (1956). *Concept of general and specific combining ability in relation to diallel crossing systems*. Aust J Biol Sci 9:463–93
- Grizzle, J. E. (1965). *The two-period change-over design and its use in clinical trials*. Biometrics 21 467–480.
- Gupta S, Kageyama S (1994). *Optimal complete diallel crosses*. Biometrika 81:420–424

- Gupta, S. and Mukerjee, R. (1989). *A calculus for factorial arrangement*. Lecture Notes in Statistics, Vol. 59, Springer- Verlag, New York.
- Hedayat, A. S. and Afsarinejad, K. (1978). *Repeated measurements designs. II*. Ann. Statist. 6 619–628.
- Hedayat, A. S. and Yang, M. (2003). *Universal optimality of balanced uniform crossover designs*. Ann. Statist. 31 978–983.
- Hedayat, A. S. and Yang, M. (2005). *Optimal and efficient crossover designs for comparing test treatments with a control treatment*. Ann. Statist. 33:915–943.
- Hedayat, A. S. and Yang, M. (2006). *Efficient crossover designs for comparing test treatments with a control treatment*. Discrete Math. 306:3112–3124.
- Hedayat, A.S. and Afsarinejad, K. (1975). *Repeated measurements designs. I*. In: Srivastava, J. N., ed. *A Survey of Statistical Design and Linear Models*. Amsterdam: North-Holland, pp. 229–242.
- Hedayat, A.S. and Zhao, W. (1990). *Optimal two-period repeated measurements designs*. Annals of Statistics. 18, 1805-1816.
- Jarrett, R.G. and Hall, W.B. (1978). *Generalized cyclic incomplete block designs*. Biometrika 65, 397–401.
- John, P.W.M. (1966). *An extension of triangular association scheme to three associate classes*. J. Roy. Stat. Soc. B28, 361-365.
- John, P.W.M. (1976b). *Inequalities for semi-regular group divisible designs*. Ann. Statist. 4, 956–959.
- John, P.W.M. (1977b). *Non-isomorphic differences sets for $v = 31$* . Sankhya.a 39B, 292–293.

- John, W. M. Peter (1978). *A new balanced design for eighteen varieties*. Technometrics 40(2).
- Jones, B., Kenward, M. G. (1989). *Design and Analysis of Cross-Over Trials*. London, New York: Chapman and Hall.
- Kageyama, S. (1972c). *On the reduction of associate classes for certain PBIB designs*. Ann. Math. Statist. 43, 1528–1540.
- Kageyama, S. (1973c). *A series of 3-designs*. J. Jpn. Statist. Soc. 3, 67–68.
- Kageyama, S. and Miao, Y. (1995). *Some methods of constructions of rectangular PBIB designs*. Combinatorics Theory, 1, 186 – 198.
- Kageyama, Sanpei (1972). *On the reduction of associate classes for certain PBIB designs*. The Annals of Mathematical Statistics 43(5) 1528-1540.
- Kageyama, Sanpei (1973). *Note on construction of partially balanced array*. http://www.ism.ac.jp/editsec/aism/pdf/027_1_0177.pdf.
- Kageyama, Sanpei and Mohan, R.N. (1984). *Three methods of constructing PBIB designs*. Communications in Statistics- Theory and Methods 13(25) 3185-3189.
- Kageyama, Sanpei and Sinha, Kishore (2003). *Some patterned construction of rectangular designs*. J. Japan Statist. Soc. 33(1) 137-144.
- Kegeyama, S. (1972). *On the reduction of associate classes for certain PBIB designs*. Ann. Math. Statist. 43, 1528-1542.
- Kegeyama, S. (1973). *Note on the reduction of association classes for PBIB designs*. Ann. Inst. Statist. Math 26, 163-170.
- Kempthorne O (1956). *The theory of diallel crosses*. Genetics 41:451–459.
- Kempthorne O, Curnow RN (1961). *The partial diallel cross*. Biometrics 17:229–250.

- Kempthorne, O. (1952). *The design and analysis of experiments*. Wiley, New York.
- Keppel, G. (1973). *Design and Analysis: A Researcher's Handbook*. Prentice-Hall. Englewood Cliffs, NJ.
- Kiefer, J. (1975). *Construction and optimality of generalised Youden designs*. In: Srivastava, J. N., ed. *Survey of Statistical Designs and Linear Models*. Amsterdam: North-Holland, pp. 335–353.
- Kunert, J. (1984). *Optimality of balanced uniform repeated measurements designs*. *Ann. Statist.* 12 1006–1017.
- Kunert, J. and Martin, R. J. (2000). *On the determination of optimal designs for an interference model*. *Ann. Statist.* 28 1728–1741.
- Kunert, J. and Stufken, J. (2002). *Optimal crossover designs in a model with self and mixed carryover effects*. *J. Amer. Statist. Assoc.* 97 898–906.
- Kushner, H. B. (1997). *Optimal repeated measurements designs: The linear optimality equations*. *Ann. Statist.* 25 2328–2344.
- Kushner, H. B. (1998). *Optimal and efficient repeated-measurements designs for uncorrelated observations*. *J. Amer. Statist. Assoc.* 93 1176–1187.
- Logan, R., Singh, M. K., Sinha, K. (1998). *Two series of BIB designs*. *Ars Combinatoria.* 49:259–264.
- Majumdar, D. (1988). *Optimal repeated measurements designs for comparing test treatments with a control*. *Commun. Statist. Theor. Meth.* 17:3687–3703.
- Marshall, A. W., Olkin, I. (1979). *Inequalities: Theory of Majorization and Its Applications*. New York: Academic Press.

- Matthews, J.N.S. (1994). *Modeling and optimality in the design of crossover studies for medical applications*. Journal of Statistical, Planning and Inference. 42, 89-108.
- Mesner, D.M. (1967). *A new family of partially balanced incomplete block designs with some Latin square design properties*. Ann. Math. Statist. 38, 571–581.
- Mukerjee R (1997). *Optimal partial diallel crosses*. Biometrika 84(4):937–946
- Nair, K. R. and Rao, C. R. (1942). *A note on partially balanced incomplete block designs*. Science and Culture, 7, 568-569.
- Paik, U. B. and Federer, W. T. (1973). *Partially balanced designs and properties A and B*. Communication in Statistics-Simulation and Computation 1(4) 331-350.
- Parsad R, Gupta VK, Srivastava R (1999). *Optimal designs for diallel crosses*. J Soc Stat Comput Appl :35–52.
- Patterson, H. D. (1950). *The analysis of change-over trials*. Journal of Agricultural Sciences. 40, 375-380.
- Patterson, H. D. (1951). *Change-over trials*. Journal of the Royal Statistical Society, B. 13, 256-271.
- Patterson, H. D. (1952). *The construction of balanced designs for experiments involving sequences of treatments*. Biometrika 39, 32–48.
- Patterson, H.D. and Williams, E.R. (1976a). *A new class of resolvable incomplete block designs*. Biometrika 63, 83–92.
- Patterson, H.D. and Williams, E.R. (1976b). *Some theoretical results on general block designs*. Proc. 5th Br. Combinatorial Conf. Congressus Numerentium, XV, 489–496.

- Patterson, H.D., Williams, E.R. and Hunter, E.A. (1978). *Block designs for variety trials*. J. Agric. Sci. 90, 395–400.
- Pigeon, J. G. (1984). *Residual Effects for Comparing Treatments with A Control*. Ph.D. dissertation. Temple University.
- Pigeon, J. G., Raghavarao, D. (1987). *Crossover designs for comparing treatments with a control*. Biometrika 74, 321–328.
- Pukelsheim, F. (1993). *Optimal Design of Experiments*. Wiley, New York.
- Raghavarao D. and Blaisdell, E. A. (1985). *Efficiency Bounds for Partially Balanced Change-over Designs Based on m-Associate Class PBIB Designs*. J. R. Statist. Soc. B. 47: 132-135.
- Raghavarao, D. (1960). *A generalization of group divisible designs*. Ann. Math. Statist. , 31, 756-771.
- Raghavarao, D. (1970). *Constructions and Combinatorial Problems in Design of Experiments*. Wiley Eastern Limited, New Delhi.
- Raghavarao, D. and Chandrasekhararao, K. (1964). *Cubic designs*. Ann. Math. Stat. 35, 389-397.
- Ratkowsky, D. A., Evans, M. A., Alldredge, J. R. (1993). *Crossover Experiments: Design, Analysis and Application*. New York: Marcel Dekker.
- Schellenberg, P.J., Van Rees, G.H.J. and Vanstone, S.A. (1977). *The existence of balanced tournament designs*. Ars Comb. 3, 303–318.
- Schellenberg, P.J., Vas Rees, G.H.J. and Vanstone, S.A. (1977). *The existence of balanced tournament designs*. Ars Comb. 3, 303-318.
- Seberry, Jennifer (1982). *Some families of partially balanced incomplete block designs*. Springer Berlin 952. Sequences of treatments. Biometrika 39:32–48.

- Shah, K. R. and Sinha, B. K. (1989). *Theory of Optimal Designs*. Lecture Notes in Statist. 54. Springer, New York.
- Shah, S. M. (1964). *An upper bound for the number of disjoint blocks in certain PBIB designs*. Ann. Math. Stat., 35, 398-407.
- Sharma, M. K. and Fanta, Sileshi (2010). *Optimal block designs for diallel crosses*. Metrika. 71, 361-372.
- Shrikhande, S.S. and Bhagwandas (1965). *Duals of incomplete block designs*. J. Indian Stat. Assn. 3, 30 – 37.
- Sinha, Kishore (1987). *A method of construction of regular group divisible designs*. Biometrika, 74 (2) 443-444.
- Stufken, J. (1996). *Optimal crossover designs*. In: Ghosh, S., Rao, C. R., eds. Handbook of Statistics, Vol. 13. Elsevier Science B. V, pp. 63–90.
- Suen, C. (1989). *Some rectangular designs constructed by the method of differences*. J. Statist. Plan. And Inference, 27, 273 – 275.
- Ting, C.-P. (2002). *Optimal and efficient repeated measurements designs for comparing test treatments with a control*. Metrika 56, 229–238.
- Vartak, M. N. (1955). *On an application of Kronecker product of matrices to statistical designs*. Ann. Math. Stat., 26, 420-438.
- Vartak, M. N. (1959). *The non-existence of certain PBIB designs*. Ann. Math. Stat., 30, 1051-1062.
- Vartak, M. N., Mashouri, G.H. and Aggarwal, M.L. (1959). *Construction of generalized cyclic combinatorially balanced designs for first order residual treatment effects*. Calcutta Statistical Association Bulletin. 43, 85-94.

- Willams, E. J. (1949). *Experimental Designs Balanced for Estimation of Residual Effects of Treatments*. Aust. J. Sci. Res. 2, 149-168.
- Willams, E. J. (1950). *Experimental Designs Balanced for Pairs of Residual Effects*. Aust. J. Sci. Res. 3, 351-363.