RESEARCH PUBLICATIONS - Hira L. Koul

1. Asymptotic behavior of the Wilcoxon type confidence regions for the multiple linear regression. (1969). (Thesis) *Ann. Math. Statist.* **40**, 1950-1979.
2. A class of ADF tests for the subhypotheses in the multiple linear regression. (1970). *Ann. Math. Statist.* **41**, 1273-1281.
3. Some convergence theorems for ranks and weighted empirical cumulatives. (1970). *Ann. Math. Statist.* **41**, 1768-1773.
4. Asymptotic normality of random rank statistics. (1970). *Ann. Math. Statist.* **41**, 2144-2149.
5. Asymptotic behavior of a class of confidence regions based on ranks in regression. (1971). *Ann. Math. Statist.* **42**, 466-476.
6. Some asymptotic results on random rank statistics. (1972). *Ann. Math. Statist.* **43**, 842-859.
7. Asymptotic normality of signed rank statistics. (1972). *Z. Wahrscheinlichkeitstheorie, Verw. Geb.* **22**, 293-300. (with R. G. Staudte, Jr.)
8. Weak convergence of weighted empirical cumulatives based on ranks. (1972). *Ann. Math. Statist.* **43**, 832-841. (with R.G. Staudte, Jr.)
9. The Bahadur efficiency of the Reimann-Vincze statistics. (1974). *Studia Scientiacarum Mathmaticarum Hungarica.* **9**, 399-403. (with M.P. Quine)
10. Asymptotic normality of H-L estimators based on dependent data. (1975). *J. Inst. Statist. Math.* **27**, 3, 429-441.
11. Power bounds for Smirnov test statistics in testing the hypothesis of symmetry. (1976). *Ann. Statist.* bf 4, 924-935. (Joint with R. G. Staudte, Jr.)
12. L_1 - rate of convergence for linear rank statistics. (1976). *Ann. Statist.* **4**, 771-774. (with R.V. Erickson)
13. Behavior of robust estimators in the regression model with dependent errors. (1977). *Ann. Statist.* **5**, 681-699.
14. A test for new better than used. (1977). *Communications; Statist. Theor. Meth.* **A6(6)**, 563-573.
15. A class of tests for new better than used. (1978). *Can. J. Statist.,* **6**, 249-471.
16. Testing for new is better than used in expectation. (1978). *Communications; Statist. Theory Meth.,* **A7(7)**, 685-701.
17. Weighted empirical processes and the regression model. (1979). An invited paper for *J. of the Indian Statist. Assoc.,* **17**, 83-91. Also presented as an invited talk at the IMS Central Regional Meeting, Lexington, Kentucky, March 22-24, 1978.
18. Asymptotic tests of composite hypothesis for nonergodic type stochastic processes. (1979). *J. of Stoch. Proc. and Application,* **9**(3). (with I.V. Basawa).
19. Some weighted empirical inferential procedures for a simple regression model. (1980). *Colloq. Math. Soc. Janos Bolyai,* **32**; **Nonparametric Statistical Inference**. 537-565.

20. Testing for new better than used in expectation with incomplete data. (1980). *J. Amer. Statist. Assoc.* **75**, 952-956. (with V. Susarla).
21. A simulation study of some estimators of regression coefficients using censored data. An invited paper presented at the annual meeting, 1980, *American Statistical Association.* (with V. Susarla & J. Van Ryzin).
22. Regression analysis with randomly right censored data. (1981). *Ann. Statist.* **9**, 1276-1288. (with V. Susarla and J. Van Ryzin).
23. A limit theorem for testing with randomly censored data. (1981). An *invited* paper at the **Special Topics Meeting of IMS, Oct. 1981, Columbus, Ohio.** *Survival Analysis, IMS Lecture Notes,* **2**, 189-205. (with V. Susarla).
24. Multi-step estimation of regression coefficients in a linear model with censored survival data. (1981). *Survival Analysis, IMS Lecture-Notes Monograph Series,* **2**, 85-100. (with V. Susarla and J. Van Ryzin).
25. Least square regression analysis with censored survival data. (1982). In: *Topics in Applied Statistics,* pp 151-165. Eds: Chaubey, Y.P. & Dwivedi, T.D. Marcel Dekker, N.Y. (with V. Susarla and J. Van Ryzin).
26. Asymptotically minimax tests of composite hypotheses for nonergodic type processes. (1983). *J. of Stoch. Proc. & Applications.* **14**. (with I.V. Basawa).
27. Minimum distance estimation in a linear regression. (1983). *Ann. Statist.* **11**, 921-932. (with T. Dewet).
28. Adaptive estimation in regression. (1983). *Statistics and Decisions.* **1**, 379-400. (with V. Susarla).
29. Estimators of scale parameters in linear regression. (1983). *Statist. and Probab. Letters.* **1**, 273-277. (with V. Susarla).
30. LAN for randomly censored linear regression. (1984). *Statist. and Decis. Supplement Issue, No. 1,* 17-30. (with W. H. Wang).
31. Test of goodness-of-fit in linear regression. (1984). *Colloq. Math. Soc. Jonos. Bolyai,* **45, Goodness - of - fit**. 279-315.
32. Minimum distance estimation in multiple linear regression model. (1985). *Sankhya, Ser. A.* **47, Part 1**, 57-74.
33. Minimum distance estimation in linear regression with unknown error distribution. (1985). *Statist. and Probab. Letters,* **3**, 1-8.
34. On a Kolmogorov-Smirnov type aligned test in linear regression. (1985). *Statist. & Probab. Letters,* **3**, 111-115. (with P.K. Sen).
35. Minimum distance estimation and goodness-of-fit tests in first order autoregression. (1986). *Ann. Statist.* **14**, 1194-1213.
36. An estimator of the scale parameter for the rank analysis of linear models under general score functions. (1987). *Scand. J. Statist.* **14**, 131-143. (with G. Sievers and J. McKean).

37. Efficient estimation of location with censored data. (1988). *Statistics and Decisions,* **4**, 349-360. (with A. Schick and V. Susarla).
38. Large sample statistics based on quadratic dispersion. (1988). *Int. Statist. Rev.,* **56**, 199-219. (with I. V. Basawa).
39. Minimum distance estimation of scale parameter in the two sample problem: Censored and Uncensored Data. (1989). *Invited* paper at Ohio State-Korea University Conference, 1987. **Recent Developments in Statistics and Their Applications,** 117-134. Eds: J. Klein and J. Lee. Freedom Press. (with S. Yang).
40. A quadraticity limit theorem useful in linear models. (1989). *Probab. Theory and Relat. Fields.,* **82**, 371-386.
41. Weak convergence of residual empirical process in explosive autoregression. (1989). *Ann. Statist.,* **17**, 1784-1794. (with S. Levental.)
42. Weakly adaptive estimators in explosive autoregression. (1990). *Ann. Statist.,* **18**, 939-960. (with G. Pflug.)
43. Weak convergence of a weighted residual empirical process in autoregression. (1991). *Statist. and Decis.,* **9**, 235-262. (with P. K. Sen).
44. Robustness of minimum distance estimation in linear regression against errors-in-variables model. (1991). An *invited* paper in the **Proceedings of International Symposium on Nonparametric Statistics and Related Fields,** 163-177. Ed: A. K. Md. E. Saleh. Elsevier Science Publishers.
45. A weak convergence result useful in robust autoregression. (1991). *J. Statist. Planning and Infer.,* **29**, 291-308.
46. M - estimators in linear regression models with long range dependent errors. (1992). *Statist. and Probab. Letters,* **14**, 153-164.
47. Locally asymptotically minimax minimum distance estimators in linear regression. (1992). An *invited* paper in the **Proceedings of the symposium on Order Statist. and Nonparmetrics** in honor of A.E. Sarhan, Alexendria, Egypt. Edited by P.K. Sen and I.A. Salama. pp405-417.
48. R-estimation of the parameters of autoregression models. (1993). *Ann. Statist.,* **21**, 534-551. (with A.K.Md.E. Saleh).
49. Bahadur representations for some minimum distance estimators in linear models. An *invited* paper in **Statist. and Probab: A Raghu Raj Bahadur Festschrift.** 1993, 349-364. Eds. J.K. Ghosh, S.K. Mitra, K.R. Parthasarathy, and B.L.S. Prakas Rao. Wiley Eastern Lmtd, Publishers. (with Z. Zhu.)
50. Asymptotics of R-, MD- and LAD- estimators in linear regression models with long range dependent errors. (1993). *Probab. Theory and Relat. Fields,* **95**, 535-553. (with K. Mukherjee).
51. Weak convergence of randomly weighted dependent residual empiricals with applications to autoregression. (1994). *Ann. Statist.* **22**, 540-562. (with M. Ossiander).

52. On bootstrapping M-estimated residual processes in multiple linear regression models. (1994). *J. Mult. Analysis.* **49**, 255-265. (with S. Lahiri).
53. Regression quantiles and related processes under long range dependent errors. (1994). *J. Mult. Analysis.* **51**, 318-317. (with K. Mukherjee).
54. Minimum distance estimation of the center of symmetry with randomly censored data. (1995). *Metrika*, **42**, 79-97. (with S. Yang).
55. Auto-regression quantiles and related rank-score processes. (1995). *Ann Statist.* **23**, 670-689. (with A.K. Md. Ehsanes Saleh).
56. Bahadur-Kiefer representations for GM-estimators in auto-regression models. (1995). *J. of Stoch. Proc. and Applications,* **57**, 167-189. (with Z. Zhu).
57. Asymptotics normality of Regression Estimators with long memory errors. (1996). *Statist. and Probab. Letters,* **29**, 317-335. (with L. Giraitis and D. Surgailis).
58. Asymptotics of some estimators and sequential empiricals in non-linear time series. (1996). *Ann. Statist.,* **24**, 380-404.
59. Adaptive estimation in a random coefficient autoregressive model. (1996). *Ann Statist.* **24**, 1025-1054. (with A. Schick).
60. Asymptotics of M-estimators in non-linear regression with long range dependent errors. (1996). *An invited* paper for *Athens Conference on Apllied Probab. & Time Series,* **II**, honoring E.J. Hannan. Eds. P. M. Robinson and M. Rosenblatt. **Lecture Notes in Statist., 115**, 272-290. Springer Verlag, New York.
61. Efficient estimation in non-linear time series models. (1997). *Bernoulli*, **3**(1), 247-277. (with A. Schick).
62. Note on convergence rate of semiparametric estimators of the dependence index. (1997). *Ann. Statist.*, **25**, 1725-1739. (with Peter Hall and Berwin Turlach).
63. Testing for the equality of two nonparametric regression curves. (1997) *J. Statist. Planning & Inference.* **65**(2), 293-314. (with Anton Schick).
64. Asymptotic expansion of M-estimators with long memory errors. (1997). *Ann. Statist.*, **25**, pp 818-850. (with D. Surgailis).
65. Estimation of the dependence parameter in linear regression with long-range dependent errors. (1997). *J. Stoch. Proces. and Appl.,* **71**, 207-224. (with L. Giraitis).
66. Lack-of-fit tests in regression with non-random design. (1998). *An invited* paper for a *volume* honoring A.K.Md.E. Saleh. pp 53-70. *Applied Statist. Science III; Nonparametric statistics & related fields.* Eds: S. Ahmad, M. Ahsanullah & B. Sinha. Nova Sci. Publishers, Inc. (with W. Stute).
67. Regression model fitting with long memory errors. (1998). *J. Statist. Planning & Inference,* **71**, 35-56. (with W. Stute).
68. Nonparametric model checks in time series. (1999). *Ann. Statist.* **27** 204-237. (with W. Stute).
69. Inference about the ratio of scale parameters in a two sample setting with current status data. (1999). *Statist. & Probab. Letters,* **45**(4), 359-370. (with A. Schick.)

70. Estimation of the dependence parameter in non-linear regression with random design and long memory errors. (2000). An *invited* paper in **Perspectives in Statistical Sciences,** Edited by Basu/Ghosh/Sen/Sinha, pages 191-208, Oxford University Press.
71. Asymptotic normality of the Whittle estimator in linear regression models with long memory errors. (2000). *Statist. Inference for Stochast. Processes*, **3, # 1-2**, 129-147. (with D. Surgailis).
72. Second order behaviour of M-estimators in linear regression with long memory parameter. (2000). *J. Statist. Planning & Inference*, **91 (2)**, 399-412. (with D. Surgailis).
73. Asymptotics of empirical processes of long memory moving averages with infinite variance. (2001). *J. Stochastic Procsses & App.* **91(2)**, 309-336. (with D. Surgailis).
74. Asymptotics of maximum likelihood estimator in a two-phase linear regression model. February 2001. (2002). *J. Statist. Planning & Inference*, **108/1-2**, pp 99-119. (with L. Qian).
75. Robust estimators in regression models with long memory errors. An *invited* article in the book **Theory and Applications of Long Range Dependence**. 339-354. Edts: G. Oppenheim, Paul Doukhan and Murad S. Taqqu. Birkhäuser (2002). (with D. Surgailis).
76. Fitting a two phase linear regression model. (2000). An *invited* paper in the *J. Indian Statist. Assoc.*, **38 (2)**, 331-353.
77. Asymptotics of M-estimators in two phase linear regression models. (2003). *J. Stochastic Processes & Applications*, **103/1**, 123-154. (with L. Qian & D. Surgailis).
78. Testing for superiority among two regression curves. *J. Statist. Planning & Inference*, (2003), **117/1**, 15-33. (with Anton Schick).
79. Asymptotic expansion of the empirical process of long memory moving averages. An *invited* review article for the book **Empirical Process Techniques for Dependent Data**. Editors: Dehling, H.G., Mikosch, T. and Sørensen, M. Birkhäuser (2002), 213-239. (with D. Surgailis).
80. On weighted and sequential residual empiricals in ARCH models with some applications. (with Kanchan Mukherjee). Included in the monograph *Weighted empirical processes in dynamic nonlinear models, second edition.* (2002). Springer Lecture Notes, **166**.
81. Asymptotic distributions of some scale estimators in nonlinear models. (2002). *Metrika*, **55 (1-2)**, 75-90.
82. Asymptotics of M-estimators in non-linear regression with long memory design. (2003). *Statist. & Probab. Letters*, **61/3**, 237 - 252. (with Baillie, R.T.)
83. Minimum distance estimation in a unit root autoregressive model. (2004). *J. Indian Statistical Assoc.*, **41(2)** 285-307. (with U. Naik-Nimbalkar).
84. Uniform reduction principle and some implications. (2004). An *invited* paper in *J. Indian Statist. Assoc.* **21**, 309-338. (with D. Surgailis).

85. Minimum distance regression model checking. (2004). *J. Statist. Planning & Inference*, **119(1)** 109-142. (with Pingping Ni).
86. Regression model checking with a long memory covariate process. (2004). *Econometric Theory*, **20**, 485-512. (with R.T. Baillie & D. Surgailis).
87. Martingale transforms goodness-of-fit tests in regression models. (2004). *Ann. Statist.*, **32**, 995-1034. (with E. Khmaladze).
88. Model diagnosis for SETAR time series. (2005). (with W. Stute & Li, F.) *Statistica Sinica*, **15(3)**, 795-817.
89. Testing for superiority among two time series. (2005). *Statist. Inference for Stochast. Processes*, **6, # 1-2**. (with Fang Li).
90. Goodness-of-fit testing in regression: A finite sample comparison of bootstrap methodology and Khmaladze transformation. *Statist. & Probab. Letters*, (2005), **74(3)**, 290-302. (with Lyudmila Sakhanenko).
91. Fitting an error distribution in some heteroscedastic time series models. (2006). *Ann. Statist.* **34**, 994-1012. (with Shiqing Ling).
92. Goodness-of-fit testing in interval censoring case 1. (2006). *Statist. & Probab. Letters*, **76**, 709-718. (with Tingting Yi).
93. Regression model fitting for the interval censored 1 responses. (2006). *Austrian J. Statist.* **35, # 2& 3**, 143-156. (with Tingting Yi).
94. Model Checks of Higher Order Time Series. (2006). *Statist. & Probab. Letters*, **76**(13), 1385-1396. (with W. Stute, M. Presedo Quindimil, and W. González Manteiga).
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96. Regression model checking with Berkson measurement errors. (2008). *J. Statist. Planning & Inference*, **138**, 1615-1628. (with Weixing Song).
97. Serial auto-regression and regression rank scores statistics. An *invited* paper to appear in a Festschrift to honor Kjell Doksum. (with Marc Hallin and Jana Jurečková). All papers were refereed for this volume also.
98. Nonparametric regression with heteroscedastic long memory errors. *J. Statist. Planning & Inference*, **137/2**, 379-404. (2007). (with Hongwen Guo).
99. Asymptotic inference for some regression models under heteroscedasticity and long memory design and errors. (2008). *Ann. Statist.* **36(1)**, 458-487. (with Hongwen Guo).
100. Minimum distance inference in unilateral autoregressive lattice processes. (2008). *Statistica Sinica*, **18**(2), 617-631. (with Marc Genton).
101. Minimum distance regression model checking with Berkson measurement errors. (2009). *Ann. Statist.* **37**, 132-156. (with Weixing Song).

102. Testing of a sub-hypothesis in linear regression models with long memory covariates and errors. (2008). *Applications of Mathematics*, **53(3)**, 235-248. (with Donatas Surgailis).
103. Testing of a sub-hypothesis in linear regression models with long memory errors and deterministic design. (2009). *J. Statistical Planning & Inference*, **139**, 2715-2730. (with Donatas Surgailis).
104. Testing the tail index in autoregressive models. *Annals of Institute of Statistical Mathematics.* **61**(3), September, 2009, 579-598. (with J. Jurečková and Jan Picek).
105. Goodness-of-fit problem for errors in non-parametric regression: distribution free approach. (with E.V. Khmaladze). To *appear* in *Ann. Statist.*
106. Model checking in partial linear regression models with Berkson measurement errors. (2009). Submitted. (with Weixing Song).
107. Minimum empirical distance goodness-of-fit tests for current status data. July 2008. To *appear* in *J. Indian Statistical Association.* (with Deepa Aggarwal).
108. Goodness of fit testing under long memory. October 2008. Submitted. (with D. Surgailis).
109. Conditional variance model checking. January 2009. Submitted. (with Weixing Song).
110. Minimum distance lack-of-fit tests in fixed design. May 2009. Submitted.