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Research Articles:

Foreign

- 1) Shabbir, Maha; Chand, S.; Dar, Irum Sajjad (2025). Heteroscedastic-adjusted standard error based estimation of ridge parameter in the linear regression model. Communications in Statistics - Theory and Methods. Vol. 54, No. 23, 7412-7426. **IF = 0.6**
- 2) Chand, S.; Shabbir, Maha (2025). A new robust ridge estimator for linear regression model with non normal, heteroscedastic and autocorrelated errors. Communications in Statistics - Theory and Methods. Vol. 54, No.23, 7651-7667. **IF = 0.6**
- 3) Dar, Irum Sajjad; Chand, S. (2025). Heteroscedasticity consistent ridge regression estimators in linear regression model. Communications in Statistics - Simulation and Computation. Vol. 54, No. 4, 1192-1204. **IF = 0.8**
- 4) Shabbir, Maha; Chand, S.; Dar, Irum Sajjad (2025). Bagging-based heteroscedasticity-adjusted ridge estimators in the linear regression model. Kuwait Journal of Science. Vol. 52, 100412. **IF = 1.2**
- 5) Dar, Irum Sajjad; Chand, S.; Shabbir, Maha (2025). An improved ridge-type estimator leveraging weighted least squares and horn's scaling for heteroscedastic regression. Communications in Statistics - Theory and Methods. DOI: 10.1080/03610926.2025.2535399. **IF = 0.6**
- 6) Rehman, Abdur; Dar, Irum Sajjad; Chand, S. (2025). A robust hybrid ridge estimation framework using scaled error variance and M-estimation in contaminated linear models. Communications in Statistics - Theory and Methods. DOI: 10.1080/03610926.2025.2568054. **IF = 0.6**
- 7) Shabbir, Maha; Chand, S.; Wajid, Rana Abdul (2025). Hybrid method for river inflow prediction: an integration of Hampel filter, decomposition techniques, and support vector machine. Applied Water Science. Vol. 15, No. 303. **IF = 5.7**
- 8) Shabbir, Maha; Chand, S.; Iqbal, Farhat; Kisi, Ozgur (2025). Novel Hybrid Approach for River Inflow Modeling: Case Study of the Indus River Basin, Pakistan. Journal of Hydrologic Engineering. Vol. 30, No. 3. **IF = 2.2**

- 9) Aasim, Muhammad; Chand, S. (2025). Charting New Paths: Standard Growth Charts for Pakistani Children (6-24 Months) using Multiple Indicator Cluster Survey Data. *Chronicles of Biomedical Sciences*. Vol. 2, No. 1, 1-13.
- 10) Shabbir, Maha; **Chand, S.**, Iqbal, Farhat (2024). Bagging-based ridge estimators for a linear regression model with non-normal and heteroscedastic errors. *Communications in Statistics-Simulation and Computation*. Vol.53, No.8, 3653-3667. **IF = 2.5**
- 11) Shabbir, Maha; **Chand, S.**, Iqbal, Farhat (2024). A new ridge estimator for linear regression model with some challenging behavior of error term. *Communications in Statistics-Simulation and Computation*. Vol.53, No.11, 5442-5452. **IF = 2.5**
- 12) Dar, Irum Sajjad; **Chand, S.** (2024). New heteroscedasticity-adjusted ridge estimators in linear regression model. *Communications in Statistics-Theory and Methods*. Vol.53, No.19, 7087-7101. **IF = 2.0**
- 13) Shabbir, Maha; **Chand, S.**; Iqbal, Farhat (2024). Novel hybrid and weighted ensemble models to predict river discharge series with outliers. *Kuwait Journal of Science*. Vol.51, No.2, 100188. **IF = 1.2**
- 14) Shabbir, Maha; **Chand, S.**; Iqbal, Farhat; Kisi, Ozgur (2024). Hybrid Approach for Stream flow Prediction: LASSO-Hampel Filter Integration with Support Vector Machines, Artificial Neural Networks, and Autoregressive Distributed Lag Models. *Water Resources Management*. **IF = 4.1**
- 15) Dar, Irum Sajjad; **Chand, S.** (2024). Bootstrap-quantile ridge estimator for linear regression with applications. *Plos one*. Vol.19, No.4, e0302221. **IF = 2.9**
- 16) Shabbir, Maha; **Chand, S.**; Iqbal, Farhat (2024). A novel hybrid approach based on outlier and error correction methods to predict river discharge using meteorological variables. *Environmental and Ecological Statistics*. **IF = 2.6**
- 17) Saleem, Naeem Hassan; Asghar, Muhammad Naveed; Shirazi, Hassanali Dalvi; **Chand, S.** (2024). A bibliometric analysis of health systems research in Pakistan. *Eastern Mediterranean Health Journal*. Vol.30, No.6. **IF = 1.7**
- 18) **Chand, S.** and Kibria, B.M. Golam (2024). A new ridge type estimator and its performance for the linear regression model: Simulation and application. *Hacet. J. Math. Stat.* 43 (3), 837-850. DOI : 10.15672/hujms.1359446. (**HJRS Category-X, IF = 0.8**)
- 19) Iqbal, M., **Chand, S.**, and Haq, Z.U. (2023). Economic policy uncertainty and CO₂ emissions: a comparative analysis of developed and developing nations. *Environmental Science and Pollution Research*. Vol.30, 15034-15043. DOI: <https://doi.org/10.1007/s11356-022-23115-4>. (**HJRS Category-W, IF = 4.223**)
- 20) Aasim, M. and **Chand, S.** (2023). Height-for-age and weight-for-age growth charts for Pakistani infants under six months: derived from a novel case selection method using multiple indicator cluster survey data. *BMC Medical Research Methodology*. 23:289. <https://doi.org/10.1186/s12874-023-02116-y>. (**HJRS Category-W, IF = 4.614**)
- 21) Dar, I.S. and **Chand, S.** (2023). Heteroscedasticity consistent ridge regression estimators in linear regression model. *Communications in Statistics - Simulation and Computation*. <https://doi.org/10.1080/03610918.2023.2276052>. (**HJRS Category-X, IF = 0.863**)

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- 23) Dar, I.S. and **Chand, S.** (2023). Improved Heteroscedasticity-Consistent Ridge Estimators for Linear Regression with Multicollinearity. *Iranian Journal of Science*. <https://doi.org/10.1007/s40995-023-01513-8>. (**IF = 1.7**)
- 24) Javed, Z., **Chand, S.** and Suhail, M. (2023). Parametric and non-parametr for delineating water quality in the major cities of Pakistan. *Desalination and Water Treatment*, 300: 107-114. DOI: <https://doi.org/10.5004/dwt.2023.29732>. (**HJRS Category-W, IF = 1.273**)
- 25) Shabbir, M., **Chand, S.** and Iqbal, F. (2023). Prediction of river inflow of the major tributaries of Indus river basin using hybrids of EEMD and LMD methods. *Arabian Journal of Geosciences*. 16 : 257. DOI: <https://doi.org/10.1007/s12517-023-11351-y>. (**HJRS Category-X, IF = 1.8**)
- 26) Shabbir, M., **Chand, S.** and Iqbal, F. (2022). A Novel Hybrid Method for River Discharge Prediction. *Water Resources and Management* 36: 253-272. (**HJRS Category-W, IF = 1.234**)
- 27) Babar, I., and **Chand, S.** (2022). Weighted ridge and Liu estimators for linear regression model. *Concurrency Computation Practice and Experience*, 14, DOI: <https://doi.org/10.1002/cpe.7343>. (**HJRS Category-X, IF = 1.831**)
- 28) Sharif, M., **Chand, S.**, Tirmazi, S.A.A.S., Farooq, U., Athar, M.M., and Batool, M. (2022). Investigation and Discrimination of Ballpoint Pen Inks by Analytical Techniques and Chemometrics. *International Journal of Analytical Chemistry*. Vol. 2022, Article ID 7450539. 13. DOI: <https://doi.org/10.1155/2022/7450539>. (**HJRS Category-X, IF = 1.885**)
- 29) Ahasn-ul-Haq, M., Memon, A.Z., and **Chand, S.** (2022). An Analysis of Generalized Exponential Uniform Distribution. *Mathematical Problems in Engineering*. Vol. 2022, Article ID 6040943. DOI: <https://doi.org/10.1155/2022/6040943>. (**HJRS Category-X, IF = 1.305**)
- 30) Javed, Z., Chand, S. and Ahmad, A. (2021). Spatial statistical analysis of groundwater quality based on inverse distance weighting and ordinary kriging in District Sheikhupura, Pakistan. *Desalination and Water Treatment*, 235 (2021): 324-332. DOI: <https://doi.org/10.5004/dwt.2021.27653>. (**HJRS Category-W, IF = 1.234**)
- 31) Babar, I., Ayed, H., **Chand, S.**, Suhail, M., Khan, Y.A., and Marzouki, R. (2021). Modified Liu estimators in the linear regression model: An application to Tobacco data, *PLOS one*, 16 (11), e0259991. DOI: <https://doi.org/10.1371/journal.pone.0259991> (**HJRS Category-W, IF = 3.24**)
- 32) Babar, I. and **Chand, S.** (2021). Weighted Ridge and Liu estimators for Linear regression Model. *Concurrency Computat Pract Exper*. (**HJRS Category-X, IF = 1.194**)
- 33) Suhail, M., **Chand, S.** and Aslam, M. (2021). New quantile based ridge M-estimator for linear regression models with multicollinearity and outliers. *Communication in Statistics: Simulations and Computation* 2021: (DOI: <https://doi.org/10.1080/03610918.2021.1884715>) (**HJRS Category-X, IF = 0.501**)

- 34) Ul-Haq, A., **Chand, S.**, Sajjad, M.Z. and Usman, R.M. (2021). Evaluating the suitability of two parametric wind speed distributions: a case study from Pakistan. *Modeling Earth Systems and Environment*. 7: 1683-1691. **(WoS, HJRS Category-Y)**
- 35) Suhail, M., **Chand, S.** and Kibria, B.G. (2020). Quantile based robust ridge m-estimator for linear regression model in presence of multicollinearity and outliers. *Communication in Statistics: Simulations and Computation*, DOI: 10.1080/03610918.2019.1621339 **(IF = 0.501)**
- 36) **Chand, S.** and Ahmad, M. (2020). Appraisal of spatial and temporal behavior in monsoon precipitation series of Punjab-Pakistan using hierarchical Bayesian Models. *Environmental Earth Sciences*, 79:304. DOI: <http://doi.org/10.1007/s12665-020-09049-5> **(HJRS Category-W, IF = 1.871)**
- 37) Javed, Z., **Chand, S.** and Amer, R. (2020). Geospatial Analysis of Groundwater Quality in the Major Cities of Pakistan. *Desalination and Water Treatment*, 198, 61-70. **(HJRS Category-W, IF = 1.234)**
- 38) Rashid, M. and **Chand, S.** (2019). Socio-economic factors of misconception about HIV/AIDS among ever-married women in Punjab: A comparison of non-spatial and spatial hierarchical Bayesian Poisson model. *Kuwait Journal of Science*, 46(4): 33-46. **(IF = 0.891)**
- 39) Suhail, M., **Chand, S.** and Kibria, B.G. (2019). Quantile based estimation of biasing parameters in Ridge Regression model. *Communication in Statistics: Simulations and Computation*, DOI: 10.1080/03610918.2018.1530782 **(IF = 0.501)**
- 40) Sharif, M., Batool, M., **Chand, S.**, Farooqi, Z. H., Tirmazi, S.A.A.S. and Athar, M. (2019). Forensic discrimination potential of blue, black, green, and red colored fountain pen inks commercially used in Pakistan, by UV/Visible Spectroscopy, Thin Layer Chromatography, and Fourier Transform Infrared Spectroscopy. *International Journal of Analytical Chemistry*. Article ID. 5980967 **(IF = 1.479)**.
- 41) **Chand, S.**, Ahmad, S. and Batool, M. (2018). Solution path efficiency and oracle variable selection by lasso-type methods. *Chemometrics and Intelligent laboratory Systems*, 183: 140-146 <https://doi.org/10.1016/j.chemolab.2018.10.015> **(IF = 2.701)**
- 42) Aftab, N. and **Chand, S.** (2018). A simulation based evidence on the improved performance of a new modified leverage adjusted heteroskedastic consistent covariance matrix estimator in the linear regression model. *Kuwait Journal of Science*, Vol.45, No.3: 1-10. **(IF = 0.811)**
- 43) Ahmad, M., **Chand, S.** and Rafique, H.M. (2017). Geostatistical cokriging and multivariate statistical methods to evaluate groundwater salinization in Faisalabad-Pakistan. *Desalination and Water Treatment*: 84(2017): 93-101. Doi: 10.5004/dwt.2017.20911 **(IF = 1.631)**
- 44) Ahmad, M., **Chand, S.**, Rafique, H.M. (2016). Predicting the spatial distribution of sulfate concentration in groundwater of Jampur-Pakistan using geostatistical methods. *Desalination and Water Treatment*, (2016): 1-10: 28195-28204 Doi: 10.1080/19443994.2016.1182076 **(IF = 1.173)**
- 45) Kausar, K. and **Chand, S.** (2015). Modeling Income Distribution and Measuring Income Inequality. *Caspian Journal of Applied Sciences Research*, Vol. 4, No. 4, pp. 6-13.

- 46) **Chand, S. and Kamal, S. (2014).** Mixed portmanteau test for diagnostic checking of time series models. *Journal of Applied Mathematics*. Vol. 2014, Article ID 545413, 8 pages, 2014. doi:10.1155/2014/545413.
- 47) Ahmad, M., **Chand, S.**, Ali, N., Javed, Z., Munir, M.R. and Azhar, M. (2014). Spatial Modeling of Field Variability in Improving the Potency of Varietal Contrast. *Journal of Global Innovations in Agriculture and Social Sciences*. Vol. 2. No. 4, 195-199.
- 48) **Chand, S.** and Rehman, A. (2014). A Note on Distribution of Pena-Redriguez Portmanteau Tests. *Caspian Journal of Applied Sciences Research*, Vol. 3, No. 10, pp. 1-7.
- 49) Iqbal, F. and **Chand, S.** (2013). Efficient bootstrap forecast intervals for return and volatility: Using the linear estimator of ARCH models. *Middle East Journal of Scientific Research*, Vol. 14, No. 11, 1502-1507.
- 50) **Chand, S.**, Farooqi, A.A. and Munir, M.F. (2013). Factor model of parenting style using exploratory and confirmatory factor analysis. *Middle East Journal of Scientific Research*, Vol. 15, No. 7, 1028-1034.
- 51) **Chand, S.** (2012). On tuning parameter selection of lasso-type methods - A Monte Carlo study, *IEEE Conference proceedings of IBCAST*.
- 52) **Chand, S.** and Aftab, N. (2012). On Finite Sample Distribution of Quasi Test Statistic based on Heteroskedastic Consistent Covariance Matrix Estimators. *Middle East Journal of Scientific Research*, Vol. 12. No. 8. 1157-1164.
- 53) **Chand, S.**, Kamal, S. and Ali, I. (2012). Modelling and volatility analysis of share prices using ARCH and GARCH models. *World Applied Sciences Journal*. Vol. 19 No. 1, 77-82.

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- 1) Muhammad Saqib, Ahmed Zogo Memon and **Sohail Chand** (2023). A Critical Analysis of Proposed Power Lomax Geometric Distribution. *Pak. J. Statist.* Vol. 39(2), 175-194. (**HJRS Category-Y**)
- 2) Aasim, M. and **Chand, S.** (2023). Novel Methodology for the Selection of Cases from MICS data for Growth Charts Development Based on WHO Criterion. DOI: <https://doi.org/10.53350/pjmhs20221611138>.
- 3) Rukh, G. and **Chand, S.** (2021). Evaluation of Health Related Quality of Life in Patients with Chronic Kidney Disease – A hospital based cross-sectional study. *Asian Journal of Allied Health Sciences*, 6(2): 10-18. (**HJRS Category-Y**)
- 4) Suhail, M., **Chand, S.** and Babar, I. (2021). On some new ridge M-estimators for linear regression models under various error distributions. *Pakistan Journal of Statistics*, 37(4): 369-391 (**HJRS Category-Y**)
- 5) Ahmad, M., **Chand, S.** and Yaseen, M. (2020). High Resolution Bayesian Spatio-Temporal Precipitation Modeling in Pakistan for the Appraisal of Trends. *Pakistan Journal of Agriculture Sciences*. 57(6): 1669-1680. (**HJRS Category X**)
- 6) Saud, N. and **Chand, S.** (2020). Goodness of fit tests for Marshall-Olkin Extended Rayleigh distribution. *Pakistan Journal of Statistics and Operation Research*, Vol. 16, No.3, 587-598. (**WoS, HJRS Category-Y**)

- 7) **Chand, S.** and Aftab, N. (2018). Modified variance ratio test of autocorrelation in the presence of heteroskedasticity. *The Lahore Journal of Economics*, 23(1): 1-19. (Category-X)
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- 9) Rashid, M. and **Chand, S.** (2016). Spatial Analysis and Modeling of Infant Mortality Rate Using Conditional Autoregressive Model – A Case Study of Punjab, Pakistan. *Pakistan Journal of Medical Research*, Vol. 55, No. 3, 75-83. **(IF = 0.696)**
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- 11) Abbas, R., Abbas, H.G., Shahid, A., **Chand, S.** and Nawaz, S. (2014). Reference Intervals for Free T₃ and Free T₄ in Pakistani Euthyroid Patients: Effect of Age and Gender on Thyroid Function. *Journal of College of Physicians and Surgeons of Pakistan*, Vol. 24, No. 11, 806-809. **(IF = 0.372)**
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- 13) **Chand, S.** and Kamal, S. (2013). Bootstrap Power of Time Series Goodness-of-Fit Tests. *Pakistan Journal of Statistics and Operation Research*, Vol. 9 No. 2, 155-170.
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- 15) **Chand, S.** and Kamal, S. (2011). Variable selection by lasso-type methods, *Pakistan Journal of Statistics and Operation Research*. Vol. 7, No. Sp, 451-464.
- 16) **Chand, S.** and Kamal, S. (2007). Predictive strength of classical risk factors of coronary artery disease among female patients in Punjab, *Pakistan Journal of Statistics and Operation Research*, Res. Vol. 3. No.1, 31-34.
- 17) **Chand, S.** and Kamal, S. (2006). A comparative study of portmanteau tests for univariate time series models. *Pakistan Journal of Statistics and Operations Research*, Vol. 2 No. 2, 111-114.
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- 23) Parshad, N., Munir, M.F. and **Chand, S.** (2013). Perfectionism, Self-Esteem and Procrastination. Pakistan Journal of Professional Psychology, Research and Practice. Vol.4, 47-54.
- 24) Munir, M.F., Rahman, N.K. and **Chand, S.** (2012). Imaginal processes, Coping Behaviour and Mental Health of Adult Students of Lahore City. Pakistan Journal of Professional Psychology: Research & Practice, Vol. 3, 12-22.