

# ROBUST ESTIMATION OF TOKAMAK ENERGY CONFINEMENT SCALING THROUGH GEODESIC LEAST SQUARES REGRESSION

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- Regression analysis is applied to global confinement scaling in tokamaks
- Geodesic least squares regression (GLS) is a new method intended for this purpose
- GLS is robust and can handle uncertainties in all variables
- Various issues with IPB98(y,2) are summarized
- GLS is applied to the engineering and dimensionless forms of the scaling law
- GLS produces consistent results and improves on simple least squares
- It is recommended to further pursue enhancements to the database as well as the regression methodology