## words and phrases useful for adjustment

mathematical model functional model stochastic model redundancy over determined under determined rank full rank rank deficient observation residual least squares weighted least squares indirect observations observations only general least squares mixed model unified least squares linear nonlinear iteration convergence divergence observation residual measurement weight variance covariance covariance matrix weight matrix standard deviation maximum likelihood design matrix normal equations transpose inverse eigenvalue eigenvector positive definite positive semi-definite eigenvalue decomposition singular value decomposition singular nonsingular random error systematic error gross error blunder estimation estimate inference

error propagation parameter reference variance variance of unit weight a priori a posteriori probablity density function continuous normal distribution multivariate normal distribution chi squared distribution t distribution F distribution confidence interval confidence region confidence volume confidence hypervolume redundancy number condition equation observation equation constraint equation minimal constraint inner constraint sequential estimation global test objective function lagrange multiplier condition number ill conditioned histogram sample population mean euler angle sequential rotation quaternion orthogonal rotation matrix orthogoanl matrix over parameterized under parameterized equality constrain inequality constraint vector norm matrix norm L1 norm L2 norm bilinear form quadratic form