



Is Gaussian normal?

J. Jaime Gómez-Hernández and Teng Xu

Universitat Politècnica de València, Research Institute of Water and Environmental Engineering, Valencia, Spain
(jgomez@upv.es)

For many years, hydraulic conductivity was considered to be lognormal. More so, in stochastic hydrogeology it was postulated that the best multivariate model for logconductivity was the multiGaussian one. However, evidence has proven that in many cases, hydraulic conductivity is not normal and that modeling using a multiGaussian distribution can introduce unwanted spatial patterns. This presentation will discuss some algorithms to address the problem of non Gaussianity of logconductivity in the context of inverse modeling. More precisely, the normal-score ensemble Kalman filter (NS-EnKF), and the ensemble pattern matching (EnPAT) will be commented with its advantages and pitfalls.