Field Parametric Geostatistics: Geostatistical rigorous solutions for highly-skewed distributions

Rochana Machado, João Felipe Costa and Jair Koppe, UFRGS, Brazil; Miguel Armony, MAIM, Brazil

Classical Geostatistics is not able to deal with highly skewed variables (like gold).

Using FPG: NO MORE TRIMMING; NO MORE CAPPING; NO MORE CUTTING HIGH GRADES.

Properties of extension function:
Transforms bad or noisy variograms into well behaved variograms

Variograms for the synthetic 140 data of GSLib
FPG lowers automatically the weight of the high grades without manual intervention by using the extension function

Procedure guidelines:
1) Data analysis
2) FPG transform
3) Variography
4) Kriging
5) Back-transform

a) Declustering procedure (if necessary);
b) Summing up for each grade the declustering results;
c) Build the cumulative function of the extensions of the grades;
d) Standardize it (from 0 to 1);
e) The cumulative extension is the new variable.

Using Field Parametric Geostatistics

FPG Software parameters screen (MAIM)