A Guide for Users

Manuscript: "CCWSIM: An Efficient and Fast Wavelet-Based CCSIM for Binary Characterization in Large-Scale Geological Domains"

Requirements and Important Points:

The present MATLAB scripts were written for multiple-point geostatistical simulation using the CCWSIM algorithm. These scripts perform binary 2D simulation and handle up to three levels of discrete wavelet decomposition. We have ensured that all input parameters are sufficiently explained in the scripts for running the algorithm. Before running the script, consider the following essential points:

To run the **CCWSIM_runme** script, the following subroutines are necessary:

-CCWSIM_2D
-CCWSIM_main
- Display_cnd_data
-hd_resize_2D
-mincut_func
-mincut
-combine_2D
-All these subroutines are available as open-source codes at: https://github.com/MBS1984/CCWSIM.

For simulation at the **first level** of wavelet decomposition, the size of ti, simulation grid, OL, and T should be **even**. For simulation at the **second level** of wavelet decomposition, the size of ti, simulation grid, OL, and T should be a **factor of four**. For simulation at the **third level** of wavelet decomposition, the size of ti, simulation grid, OL, and T should be a **factor of eight**.

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