The available codes are for 2D and 3D unconditional/conditional simulations by MS-CCSIM algorithm.

For using the codes in 2D and 3D simulations, CCSIM_2D and CCSIM_3D can be used, respectively.

- **For unconditional simulation, the hd should be all NaN.**
- **In the case of having three MS levels, the size of TI and HD should be a factor of 4.**
- **In the case of having two MS level, the size of TI and HD should be a factor of 2.**
- **In the case of using one level (i.e. native CCSIM algorithm), TI and HD can have any sizes.**

IMPORTAN NOTES:

1. **DO NOT use MS-CCSIM when the TI is very small and/or has a small horizontal size (in 3D TIs), because the native CCSIM can also handle these TIs.**
2. **Use ONE level of multi-scale for small TIs.**
3. **For conditional simulation, "*prop*" can effect of the quality of the realizations, therefore, start with small proportion (e.g. 0.01 or 0.001) and if the mismatch was high, then larger proportion can be used. In other words, since the algorithm is enough fast, therefor this adjustment can be done quickly.**
4. **The template vibration is off by default. We recommend to use it when you have a poor and/or low variability of pattern in TI.**
5. **Since the template for 2D case is square, the template size should be large enough to keep the anisotropy in both X and Y directions.**
6. **Before using the 3D codes, the 3D convolution should be compiled (please check its readme file "convnfft_install.m").**

Please report the bugs and error to me. I will be happy to remove and enhance the codes.

Thanks,

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