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Solid Earth Discussions

Interactive comment on "The stochastic quantization method and its application to the numerical simulation of volcanic conduit dynamics under random conditions" *by* E. Peruzzo et al.

Anonymous Referee #2

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It is interesting to see this specific approach adopted for the numerical simulation of volcano conduit dynamics.

However, there is no reference to the general problem of defining an emulator, which is a statistical approximation of a simulator.

To quote from Prof. Tony O'Hagan, a statistician who has researched this problem:

'Remembering that the simulator is just a function f(:) that maps inputs x into an output y = f(x), we could imagine using an approximation f'(:) instead of f(:) for the uncertainty

analysis calculations. If the approximation is good enough, then the uncertainty measures produced by the analysis will be sufficiently close to those that would have been obtained using the original simulator f(:).'

Before publication, I recommend a literature review to encompass other alternatives to the method chosen.

Interactive comment on Solid Earth Discuss., 2, 43, 2010.