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# Gaussian Correlation as a Source of Numerical Instabilities in the Modelling of Interactive Water-Health Processes

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Numerical computations are used extensively in spatiotemporal analysis of interactive water-health systems. Also, theoretical permissible models are used to represent spatiotemporal continuity of these systems. It can occur that computational analysis of such systems exhibits singularities for given conditions of certain models. The documented singular behavior of the Gaussian covariance model in computations is examined in this review. We show examples where this correlation model leads to numerical instability in spatiotemporal simulation algorithms concerning water-health systems, and examine computational workarounds to alleviate the situation