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# Discontinuous Galerkin based quasi-linear geostatistical approach

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The quasi-linear geostatistical approach can be used to estimate the spatial distribution of heterogeneous hydraulic conductivity fields based on point-wise measurements of observable quantities such as the hydraulic head or the concentration of a tracer. The accurate and efficient solution of steady-state groundwater flow and solute transport problems is crucial for the inversion. The discontinuous Galerkin method incorporates upwinding in a natural way, yielding a robust solver even in the convection dominated case. The benefits and drawbacks as compared to the streamline diffusion method are illustrated.