Electrostatic fluctuations in polyelectrolytes - a numerical approach

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The treatment of electrostatic interactions in polyelectrolytes beyond the mean-field level of approximation will be briefly reviewed. We will present our recent work on the computation of electrostatic fluctuations, using a method that essentially allows their exact treatment, through the numerical integration of a stochastic differential equation within a density functional framework. Preliminary results on a simple system made of two like-charge ions immersed in various types of salts will be discussed.