

ABSTRACT. This paper is concerned with linear uniformly elliptic and parabolic partial differential equations in divergence form. It is assumed that the coefficients of the equations are random variables, constant in time. The Green's functions for the equations are then random variables. Regularity properties for expectation values of Green's functions are obtained. In particular, it is shown that the expectation value is a continuously differentiable function whose derivatives are bounded by the corresponding derivatives of the heat equation. Similar results are obtained for the related finite difference equations.