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*Dyadic models in linear and nonlinear elliptic PDE.*

A survey of recent results on linear, quasilinear and fully nonlinear elliptic PDE will be given where dyadic models play an important role. This includes global estimates of Green's functions and the conditional gauge, criteria of solvability, and characterizations of removable singularities. Equations involving the fractional Schrödinger,  $p$ -Laplacian or  $k$ -Hessian operators, and singular source terms and data, will be considered.

This talk is based on joint work with Michael Frazier, Benjamin Jaye, Fedor Nazarov, and Nguyen Cong Phuc. (Received February 21, 2010)