1116-35-381 **Ugur G. Abdulla*** (abdulla@fit.edu), Department of Mathematical Sciences, Florida Institute of Technology, Melbourne, FL 32901. *The Wiener Test for the Removability of the Logarithmic Singularity for the Elliptic PDEs with Measurable Coefficients and Its Consequences.*

We introduce a notion of *log*-regularity (or *log*-irregularity) of the boundary point ζ (possibly $\zeta = \infty$) of arbitrary open subset Ω of the Greenian deleted neigborhood of ζ in R^2 concerning second order uniformly elliptic equations with bounded and measurable coefficients, according as whether the *log*-harmonic measure of ζ is null (or positive). A necessary and sufficient condition for the removability of the logarithmic singularity, that is to say for existence of a unique solution to the Dirichlet problem in Ω in a class $O(\log|\cdot-\zeta|)$ is established in terms of the Wiener test for the *log*-regularity of ζ. From the topological point of view, the Wiener test at ζ presents minimal thinness criteria of sets near ζ in minimal fine topology. Precisely, the open set Ω is a deleted neigborhood of ζ in minimal fine topology if and only if ζ is *log*-irregular. From the probabilistic point of view Wiener test presents asymptotic law for the *log*-Brownian motion near ζ conditioned on the logarithmic kernel with pole at ζ. (Received August 29, 2015)