ON SOLUTIONS OF LINEAR STOCHASTIC EQUATIONS IN THE CRITICAL CASE

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During the talk we are going to discuss three models in the critical case:

- the random difference equation, i.e. the Markov chain $R_n = A_n R_{n-1} + B_n$;
- the homogeneous linear equation $R =_d \sum_{i=1}^{N} A_i R_i$;
- the nonhomogeneous linear equation $R =_d \sum_{i=1}^{N} A_i R_i + B$.

We will explain 'criticality' in each case and review techniques leading to description of asymptotic properties of solutions of all models. The talk will base on joint papers with Sara Brofferio (Paris Sud), Ewa Damek (Wroclaw), Konrad Kolesko (Wroclaw).