

Date: March 13, 2025

Time: 15:00 CET

Room: CRM Auditorium (UAB)

The Liouville theorem for discrete nonlinear equations

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The interest in harmonic functions on graphs goes back to the XIXth century, closely related to electrical networks and random walks. Discrete Potential Theory is nowadays a dynamic field, with plenty of connections and applications to different areas of pure and applied mathematics.

As in the continuous case, the Liouville and Harnack properties are also fundamental tools in the discrete setting. After reviewing some background and known facts, we will discuss a recent Liouville-type result for a certain class of nonlinear equations on lattices. (Joint work with T. Adamowicz, Warsaw).