

# DIFTA

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11:15 – 12:00 in 546

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## **Removability of a level set for solutions of quasilinear equations.**

**Abstract:** Can one divide out the factor  $|\nabla u|^2$  in the equation

$$|\nabla u|^2 \Delta u = 0 \text{ ?}$$

The critical points ( $\nabla u = 0$ ) are crucial.

Suppose that  $u \in C^1(\Omega)$  is harmonic in the open subset of  $\Omega$  where  $u \neq 0$ . Then  $u$  is, in fact, harmonic in the whole domain  $\Omega$ . This is a generalization, due to Kral, of a theorem of Radó for analytic functions. This phenomenon is encountered for many nonlinear equations too. I will discuss a proof based on a characterization with viscosity solutions.

This is joint work with P. Juutinen.