



Mês de: Janeiro 2012

**SEMINÁRIO DE ANÁLISE E EQUAÇÕES
DIFERENCIAIS**

Dia 26 de Janeiro (quinta-feira), às 14h45, na Sala B3-01

“Some Versions of the Variational Strong Maximum Principle”

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Abstract:

The Strong Maximum Principle, a well known property of elliptic partial differential equations, is being studied in variational setting. Namely, we consider the integral functional with a convex lower semicontinuous lagrangean depending only on the gradient through an arbitrary gauge function. Extending a Cellina's result we prove that strict convexity and smoothness of the lagrangean at the origin are necessary and sufficient for validity of the SMP. Furthermore, we prove some generalized versions of the SMP substituting the identical zero (or constant function) by another reference minimizer of the given functional whenever the rotundity hypothesis for the lagrangean fails.

The proofs are based on local estimates of minimizers close to nonextremum points obtained by involving the dual gauge function.

Joint work with Telma J. Santos.

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