

WORKSHOP ON SUBMANIFOLD THEORY AND GEOMETRIC ANALYSIS

UFSCAR, SÃO CARLOS, BRAZIL, AUGUST 05 – 09, 2019

THURSDAY- 11:30h - 12h -AUDITÓRIO DO DM

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Constant Anisotropic Mean Curvature Surfaces

ABSTRACT. We talk about constant anisotropic mean curvature surfaces (CAMC surfaces), which arise as critical points (with or without restriction to variations that preserve volume) of the anisotropic area functional, given by the integral of a smooth function defined on the unit sphere and evaluated on the Gauss map. A particular case of CAMC surfaces occurs when the anisotropy function is identically equal to 1, corresponding to the minimal and constant mean curvature surfaces (CMC surfaces). As well as CMC surfaces, CAMC surfaces are also presented locally as graphs of solutions of an elliptical quasi-linear differential equation, which allows us to study them under the light of the Maximum Principle. We will present the introductory concepts of the theory and some results obtained, such as a Bernstein-type theorem for complete CAMC multi-graphs and uniform height estimates for CAMC graphs with planar boundary, with applications to the study of properly embedded surfaces with finite topology.

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