

# WORKSHOP ON SUBMANIFOLD THEORY AND GEOMETRIC ANALYSIS

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

THURSDAY- 14:50h - 15:30h -AUDITÓRIO DO DM

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Timelike Surfaces of the de Sitter space  $\mathbb{S}_1^3(1) \subset \mathbb{R}^4$

ABSTRACT. We present a method of describing all timelike surfaces in  $\mathbb{S}_1^3(1)$  using null coordinates and complex variable. We use also stereographic projection to identify necessary and sufficient conditions for lifting our timelike surfaces in  $\mathbb{S}_1^3(1)$  into a special complex quadric of the complex projective space and then we study that surfaces. In particular we obtain a system of differential equations in terms of special complex functions which characterize minimal surfaces. We can solve the system explicitly. This work is joint Prof. Antonio Padua (IME-USP) and Martin Magid (Wellesley College).

Support:



Organizers:

