Seminário de Geometria Diferencial

On second-order partial differential equations of spherical or pseudospherical type

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Abstract. A class of quasilinear second-order hyperbolic partial differential equation describing spherical or pseudospherical surfaces is considered. These equations are characterized by the fact that their generic solutions provide metrics on open subsets of $\mathbb{R}^2$, with Gaussian curvature $K = 1$ or $K = -1$, respectively. Our goal in this talk, after collect some preliminaries on differential equations that describe spherical or pseudospherical surfaces, is to show a complete characterization which has the Short-pulse an Astigmatism equations as important examples. Joint work with Diego Catalano Ferraioli (UFBA) and Keti Tenenblat (UnB).