Calderón-Zygmund Analysis Seminar

Monday, Feb 4, 3:45 pm, Eckhart 202

Minmax minimal surfaces in arbitrary codimension

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Abstract. We will present a variational strategy for producing minimal surfaces of non zero index in arbitrary closed riemannian manifold. The method consists in relaxing the area functional by adding a very coercive Lagrangian preceded by a small “viscosity” parameter. The enhanced functional is taken coercive enough in order to enter in the framework of Palais deformation theory in infinite dimensions and to produce a well defined pseudo gradient in the space of Sobolev immersions for this Lagrangian. We will then study carefully the passage to the limit when the viscosity tends to zero. As we will see this a-priori natural and naive procedure will reserve us some surprizes.