COISOTROPIC SUBMANIFOLDS OF SYMPLECTIC MANIFOLDS, LEAFWISE FIXED POINTS, AND PRESYMPLECTIC EMBEDDINGS

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Abstract: Coisotropic submanifolds generalize real hypersurfaces, which occur in mechanical systems as energy level sets. Leafwise fixed points correspond to trajectories for which a given perturbation of the system results in a phase shift. Recently, the problem of finding lower bounds on the number of such points has caught a lot of attention. I will discuss a bound that in many cases is optimal. As an application, I obtain a presymplectic non-embedding result.