

Abstract: Y. Eliashberg and N. Mishachev introduced wrinkled embeddings to show that a tangential homotopy can be approximated by a homotopy of embeddings with simple singularities. Several results in Contact Topology (namely, E. Murphy's h-principle for loose legendrians and D. Álvarez-Gavela's simplification of front singularities of legendrians) rely on this theorem.

In this talk I will explain a higher order analogue of this result, in which instead of tangential homotopies we look at homotopies of the r -jet of a submanifold. I will then discuss some consequences of this in the study of submanifolds tangent to the tautological distribution in jet space (which generalise legendrians). This is joint work with L.E. Toussaint.