

1105-57-293

Patricia Cahn* (pcahn@math.upenn.edu) and **Vladimir Chernov**. *The Classification of V-Transverse Knots and Loose Legendrians*.

We classify knots in a 3-manifold M that are transverse to a nowhere zero vector field V , up to the corresponding isotopy relation. When V is the co-orienting vector field of a contact structure, these knots are the same as pseudo-Legendrian knots, which were introduced by Benedetti and Petronio. We show that two loose Legendrian knots with the same overtwisted disk in their complement are Legendrian isotopic if and only if they are pseudo-Legendrian isotopic, generalizing results of Dymara and Ding-Geiges. V -transverse knots are naturally framed. We show that each framed isotopy class contains infinitely many V -transverse isotopy classes whose elements are pairwise distinct up to V -transverse homotopy, provided that one of the following conditions holds: V is a co-orienting vector field of a tight contact structure; the manifold M is irreducible and atoroidal; or, the Euler class of a 2-dimensional bundle orthogonal to V is a torsion class. We also give examples of infinite sets of distinct V -transverse isotopy classes whose representatives are all V -transverse homotopic and framed isotopic. (Received September 22, 2014)