Twisted Milnor Hypersurfaces

Jingfang Lian

In this talk, I would first introduce Twisted Milnor hypersurfaces, which is the generalisation of classic Milnor hypersurface. I would mainly show the formula of their $\widehat{A}$-genus and Atiyah-Singer-Milnor α-invariant, and also give some applications about the geometry, more precisely, group actions and existence of Riemannian metrics of positive scalar curvature on twisted Milnor hypersurfaces. As for the computation, the main tool to compute the α-invariant is Zhang's analytic Rokhlin congruence formula.

In the next part, I would also introduce the twisted complete intersection, which is the intersection of some Twisted Milnor hypersurfaces. I would show the sufficient condition of the existence of string manifolds on twisted complete intersections, and give the $\widehat{A}$-genus of any twisted complete intersections.