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PRODUCTS OF KNOTS

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0. **Introduction.** Let $f: C^n \to C$ be a (complex) polynomial mapping with an isolated singularity at the origin of C^n. That is, $f(0)=0$ and the complex gradient df has an isolated zero at the origin. The *link* of this singularity is defined by the formula $L(f)=V(f)\cap S^{2n-1}$. Here the symbol $V(f)$ denotes the variety of f, and S^{2n-1} is a sufficiently small sphere about the origin of C^n.

Given another polynomial $g: C^m \to C$, form $f+g$ with domain $C^{n+m}= C^n \times C^m$ and consider $L(f+g)\subset S^{2n+2m-1}$.

In this note, we announce a topological construction for $L(f+g)\subset S^{2n+2m-1}$ in terms of $L(f)\subset S^{2n-1}$ and $L(g)\subset S^{2m-1}$. The construction generalizes the algebraic situation. Given nice codimension-two imbeddings $K\subset S^n$ and $L\subset S^m$, we form a product $K\otimes L\subset S^{n+m+1}$. Then $L(f)\otimes L(-g)\simeq L(f+g)$.

§1 outlines the construction and its properties. §2 gives applications to iterated branched covering constructions, knot theory, and orthogonal group actions.

This construction and the results of §1 have also been found independently by W. Neumann [7].

1. **The construction of products.** All manifolds will be smooth. Each ambient sphere S^n comes equipped with an orientation.

A *knot* in S^n is any closed oriented codimension-two submanifold K. Given a knot $K\subset S^n$ we may write $S^n=E_K\cup(K\times D^2)$ where E_K is a

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