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ADDENDUM TO FIBERED 2-KNOTS AND LENS SPACES

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There are some obscure points in the proof of Lemma 1. We can consider that any M^0 -fibered 2-knot K in Σ is constructed from an M -fiber bundle over S^1 with suitable monodromy h , $V = M \times_h S^1$, by performing a surgery along a 2-handle attaching to a normal bundle of a section ζ , a simple closed curve intersecting each fiber in a single point. That is, $\Sigma = V - \zeta \times \text{Int } D^3 \cup D^2 \times S^2$ and $K = \{0\} \times S^2 \subset D^2 \times S^2$. Then we must show that the pair (Σ, K) is independent of the choice of sections and framings of the normal bundles. Since M admits a circle action with fixed point set, the framing is irrelevant [1], [2]. Let $\pi_1(M, x) = \langle \alpha \mid \alpha^p = 1 \rangle$. Then $\pi_1(V, x \times \{1\}) = \langle \alpha, t \mid \alpha^p = 1, t \alpha t^{-1} = \alpha^{-1} \rangle$, since h is diffeotopic to A on M . It is easy to verify that $\alpha^i t$ is conjugate to t for any integer i . Hence any two sections are freely-homotopic each other, and so isotopic, since $\dim V = 4$. By the Isotopy Extension Theorem, this isotopy is realized by an ambient isotopy of V . Therefore the surgered manifold pair is independent of the choice of sections.

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References

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