

List of sing. fibers for

$$\tilde{g} \mid_{D_\delta^3 \cap g^{-1}(D_\epsilon^2)} : D_\delta^3 \cap g^{-1}(D_\epsilon^2) \rightarrow D_\epsilon^2$$

$k=1$



\tilde{I}_*^0



\tilde{I}_*^1



\tilde{I}_*^α

$k=2$



$\tilde{II}_*^{\alpha 0}$



$\tilde{II}_*^{\alpha \alpha}$



$\tilde{II}_*^{\alpha 1 \alpha}$



\tilde{II}_*^β



\tilde{II}_*^a



\tilde{II}_*^γ

Lemma

(1) alg. # of cusps of \tilde{g}

$$= -\|\tilde{I}_0^0(g_2)\| + \|\tilde{I}_e^0(g_2)\|$$

$$= \|\tilde{I}_0^\alpha(g_2)\| - \|\tilde{I}_e^\alpha(g_2)\| + \|\tilde{I}_0^1(g_2)\| - \|\tilde{I}_e^1(g_2)\|$$

(2) the above integer is a (fold) cobordism invariant of g_2