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Variations of Mixed Hodge Structures associated to a singular family of Calabi–Yau 3-folds

We consider a particular family of singular Calabi–Yau 3-folds parametrized by $U = \mathbf{P}^1 - \{q_1, \dots, q_6\}$. The singular locus of the fiber over u consists of exactly 100 nodes for every $u \in U$.

We study the monodromy action and in particular the variation of Hodge structure associated to the smooth family of the desingularizations.