On symplectic fillings of quotient surface singularities

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Abstract

One of active research areas in 4-manifold theory is to cassify symplectic fillings of certain 3-manifolds equipped with a natural contact structure. Among them, people have long studied symplectic fillings of the link of a normal complex surface singularity. Note that the link of a normal complex surface singularity carries a canonical contact structure which is also known as the Milnor fillable contact structure.

For example, P. Lisca classified symplectic fillings of cyclic quotient singularities whose corresponding link is lens space, and A. Nemethi and P. Popescu-Pampu identified the correspondence between the symplectic fillings in Lisca's classification and the Milnor fibers for cyclic quotient singularities. Furthermore, M. Bhupal and K. Ono tried to extend these results, so that they classified all possible symplectic fillings of quotient surface singularities.

In this talk, I'd like to investigate the correspondence between the symplectic fillings in Bhupal–Ono's classification and the Milnor fibers of quotient surface singularities.

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