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Ben Wormleighton* (b.wormleighton@berkeley.edu), 4415 Webster Street, Oakland, CA 94609. *Hilbert series of orbifold del Pezzo surfaces*. Preliminary report.

There are two classes of cyclic quotient singularities that are of especial interest in mirror symmetry for Fano varieties: T-singularities and residual singularities, characterised by being smoothable and rigid respectively. I will describe some insight their geometry offers into the structure of Hilbert series of orbifold del Pezzo surfaces, and how this provides nonexistence results for when a power series is not the Hilbert series of such a variety. In the toric case this also has applications to lattice point counting, which I will outline. (Received August 24, 2018)