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A CICY scan for orientifolds

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A orientifold involution on a Calabi-Yau manifold will induce a splitting of the cohomology in even and odd parts. Furthermore, in many IIB models it proves useful that the orientifold action gives non-vanishing odd h11. Motivated by these facts, we report here the result of a scan in the database of complete intersection Calabi-Yau threefolds. Out of the 7890 CICYs we single out which ones admit a Z2 involution swapping same-topology divisors, therefore allowing for the introduction of an O7- plane. We then compute the values of the odd part of h11. Our conclusion is that at least in this database the odd h11 will be (almost) always zero or one, so CICYs are generically not good if one insists in having models with large odd h11. We compare this result with an analog one in the the Kreuzer-Skarke database.

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