

# Comments and updated references to 'Modular Calabi-Yau threefolds'

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This file contains a list of updated and additional references, including some comments, to the book:

Meyer, Christian, *Modular Calabi-Yau threefolds*, Fields Institute Monograph **22** (2005), AMS, ISBN 0-8218-3908-X.

If you have any comments on the list, please contact the author via [cm.math@gmx.de](mailto:cm.math@gmx.de).

## 1 Updated references

The following papers are contained as preprints in the book's references. Meanwhile they have been published or accepted for publication. In addition, the URL of the Modular Forms Database ([97]) has changed (again).

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- [28] Cynk, S., Meyer, C., *Geometry and arithmetic of certain double octic Calabi-Yau manifolds*, Canadian Math. Bull. **48**, no. 2 (2005), pp. 180–194.
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- [34] Dieulefait, L., *A modularity criterion for integral Galois representations and Calabi-Yau threefolds*, AMS/IP Studies in Advanced Mathematics "Mirror Symmetry V" (2006), Proceedings of the BIRS Workshop on Calabi-Yau Varieties and Mirror Symmetry, December 6-11, 2003, appendix to Hulek, K., Verrill, H. A., *On the modularity of Calabi-Yau threefolds containing elliptic ruled surfaces*, pp. 32–34.
- [51] Hulek, K., Verrill, H. A., *On modularity of rigid and nonrigid Calabi-Yau varieties associated to the root lattice  $A_4$* , Nagoya Math. Journal **179** (2005), pp. 103–146.
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- [64] Livné, R., Yui, N., *The modularity of certain non-rigid Calabi–Yau threefolds*, J. of Math. Kyoto Univ. **45**, no. 4 (2005), pp. 645–665.
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- [98] Top, J., van Geemen, B., *An isogeny of K3 surfaces*, Bull. London Math. Soc. **38** (2006), pp. 209–223.
- [105] Wan, D., *Mirror Symmetry for Zeta Functions*, with an appendix by C. D. Haessig, AMS/IP Studies in Advanced Mathematics "Mirror Symmetry V" (2006), Proceedings of the BIRS Workshop on Calabi-Yau Varieties and Mirror Symmetry, December 6-11, 2003, pp. 159–184.

## 2 Additional references

Most of the following papers have appeared after the book was in print. Most of them are dealing with modularity of Calabi-Yau varieties in some way. For convenience, they are given reference numbers (starting with 113), but the numbers might change in case there are any more additions to the list.

The paper [142] is a classic. Only after publication of the book, I discovered that in this paper the family of  $\Sigma_5$ -symmetric quintic surfaces (cf. section 4.9) has been studied in detail. It is proved that the quintic surface  $S_{(5:12)}$  is a singular model for the Hilbert modular surface corresponding to the congruence subgroup of level 2 in the extended Hilbert modular group for  $\mathbb{Q}(\sqrt{13})$ . This provides an explanation for the occurrence of the bad prime 13 in the  $L$ -series of the double octic  $X_{(5:12)}$  constructed from  $S_{(5:12)}$  and the Clebsch cubic. Furthermore, the surface  $S_{(5:4)}$  corresponds to  $\mathbb{Q}(\sqrt{21})$  in the same way. I do not know, however, how the bad prime 7 gets lost in the level of the  $L$ -series of the double octic  $X_{(5:4)}$ .

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