

# Fermat quartic K3 via finite group symmetries

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## **Abstract**

I would like to characterize the Fermat quartic K3 surface via its finite group symmetries. In the course of proof, I would like to explain some pretty relations between geometry of K3 surfaces and algebraic tools, namely, projective v.s. linear representation of finite groups, Mathieu groups and coding theory, arithmetic of cyclotomic integers and so on.