**The non-existence of symmetric designs for $(81, 16, 3)$ having $\mathbf{A_5}$ as an automorphism group**

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**Abstract:** Some restrictions of the action of prime order subgroups of the alternating group $\mathbf{G} \cong \mathbf{A_5}$ operating on triplanes for $(81, 16, 3)$ are proved. Then it is shown that $\mathbf{G}$ cannot act on a triplane possessing such parameters.