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A heavy Axion from a Grand Color

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The apparently simple and elegant QCD axion solution to the Strong CP problem is well known to be affected by the so called "quality problem", whose root lies in the smallness of the QCD-induced axion potential with respect to UV-suppressed operators explicitly breaking the anomalous PQ symmetry. In this talk we present a model which addresses this issue by postulating that the dominant contribution to the axion potential arises from an additional $USp(N-3)$ confining group, which at high scales unifies with Color into a Grand Color group. This setup robustly solves the Strong CP problem and features an axion parametrically heavier than the standard one, providing a visible axion around the GeV scale in the region of parameter space where the quality problem is sizeably ameliorated.

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