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{Moduli stabilization and light axion by Siegel modular forms

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We discuss the stabilization of multiple moduli by utilizing Siegel modular forms in the framework of $Sp(2g, \mathbb{Z})$ modular invariant theories.

We derive the stationary conditions at CP-conserving fixed points for a generic modular- and CP-invariant scalar potential.

The stabilization of multiple moduli is explicitly demonstrated in $Sp(4,\mathbb{Z})$ and $Sp(6,\mathbb{Z})$ modular invariant scalar potential.

Furthermore, it turns out that there exists a light axion when we incorporate radiative corrections to the scalar potential.

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