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$N = 1$ $Sp(N_c)$ **Supersymmetric Gauge Theories with Many Flavors** MOHAMMAD EDALATI, PHILIP C. ARGYRES, University of Cincinnati — Using the Konishi anomaly, we compute the effective superpotentials of $N = 1$ $Sp(N_c)$ supersymmetric gauge theories with large number of flavors in the fundamental representation of the gauge group. A novel feature is that for $N_f > N_c + 2$, these superpotentials must be regularized in order to have smooth extrema. We show, however, that the resulting manifold of extrema is independent of the choice of regularization and correctly describes the moduli space of vacua. We also show that these superpotentials can be used to compute certain higher derivative global F-terms at tree level which were previously analyzed as instanton effects.

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