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Radu Laza, Gregory Pearlstein and Zheng Zhang* (zheng.zhang-2@colorado.edu). *On the moduli space of pairs consisting of a cubic threefold and a hyperplane.*

The period map is a powerful tool for studying moduli spaces, and has been applied successfully to abelian varieties, K3 surfaces, cubic threefolds/fourfolds, and hyper-Kähler manifolds. However, for some interesting moduli problems (e.g. moduli spaces for pairs of varieties) there might be no obvious way to construct periods. Joint with R. Laza and G. Pearlstein, we construct a period map for cubic pairs consisting of a cubic threefold and a transverse hyperplane using a variation of the construction by Allcock, Carlson and Toledo (which allows us to encode a cubic pair as a “lattice polarized” cubic fourfold). The main result is that the period map induces an isomorphism between a GIT model of the moduli of cubic pairs and the Baily-Borel compactification of some locally symmetric domain. (Received September 16, 2019)