NICE MODULAR VARIETIES

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ABSTRACT. We consider some more or less classical hypersurfaces in projective space, known to be birational to a quotient of the unit ball in the corresponding dimension by an arithmetic subgroup. We are interested in understanding the intersection of each such hypersurface with its Hessian from the point of view of arithmetic groups. In addition to unifying certain results found previously in the literature, we compute for four of these hypersurfaces the Hessian as well as its intersection with the hypersurface.