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Laure Flapan* (lflapan@math.ucla.edu). *Hodge groups of Hodge structures with Hodge numbers $(n, 0, \dots, 0, n)$* . Preliminary report.

The Hodge group (or Mumford-Tate group) of a Hodge structure V is a connected algebraic \mathbb{Q} -subgroup of $SL(V)$ whose invariants in the tensor algebra generated by V and its dual V^* are exactly the Hodge classes. Thus, Hodge groups are objects of great interest in the context of the Hodge Conjecture. In this talk, we discuss results about the Hodge groups of simple polarizable Hodge structures with Hodge numbers $(n, 0, \dots, 0, n)$, when n is 1, 4, a prime p , or $2p$. The results when n is 1, 4, or p generalize known results about abelian varieties, whereas the results when n is $2p$ are entirely new. These results for $n = 2p$ yield that both the Hodge and General Hodge Conjectures hold for all powers of certain simple abelian varieties of dimension $2p$. (Received November 12, 2015)