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Asher Auel* (asher.ael@gmail.com), Department of Mathematics and CS, Emory University, 400 Dowman Drive W401, Atlanta, GA 30322. *Clifford sequences in the theory of line bundle-valued quadratic forms over arithmetic schemes.*

The theory of Witt groups of line bundle-valued quadratic forms over arithmetic schemes has undergone recent rapid development. In this talk, we will introduce an étale cohomological invariant of line bundle-valued quadratic forms that generalizes the classical Hasse-Witt invariant. This invariant arises from a newly constructed Clifford sequence for orthogonal similitude groups. In low ranks, we show how this Clifford sequence reflects accidental isomorphisms of Dynkin diagrams and is useful for classifying line bundle-valued quadratic forms in terms of 2-torsion elements of the Brauer group. We will also mention applications to the Milnor conjectures over arithmetic schemes. (Received August 25, 2009)