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Alexander Carney* (acarney@berkeley.edu). *The Hodge-index theorem for arithmetic intersections over function fields.*

The Hodge-index theorem states that the intersection pairing on an algebraic surface has signature $+1, -1, \dots, -1$. This is generalized by Faltings and Hriljac to arithmetic surfaces using Arakelov Theory, and to higher dimensional arithmetic intersections over number fields by Moriwaki and Yuan–Zhang. In this paper, we extend these results to the context of function fields, proving the Hodge-index theorem for adelic metrized line bundles on projective varieties of arbitrary dimension over one-dimensional function fields. As an application, we also prove a rigidity theorem for preperiodic points of polarized algebraic dynamical systems over global function fields. (Received September 25, 2018)