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Alan Stapledon* (astap1dn@math.ubc.ca), The University of British Columbia, Room 121,
1984 Mathematics Road, Vancouver, BC V6T 1Z2, Canada. *The tropical motivic nearby fiber.*

We construct motivic invariants of a subvariety of an algebraic torus from its tropicalization and initial degenerations. More specifically, we introduce an invariant of a compactification of such a variety called the ‘tropical motivic nearby fiber’. Under suitable conditions, this invariant specializes to the Hodge-Deligne polynomial of the limit mixed Hodge structure of a corresponding degeneration. We deduce a formula for the Euler characteristic of a general fiber of the degeneration. This is joint work with Eric Katz. (Received September 17, 2010)