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Kevin Tucker* (kevtuck@umich.edu), Department of Mathematics, University of Michigan, 2704 East University Avenue, Ann Arbor, MI 48109-1109, and **Karl Schwede** (kschwede@umich.edu), Department of Mathematics, University of Michigan, 2704 East University Avenue, Ann Arbor, MI 48109-1109. *On Certain Pathological Behavior of Multiplier Ideals in Positive Characteristic and Related Open Questions.*

The multiplier ideal of a \mathbb{Q} -divisor on a complex algebraic variety is a fundamental object in the study of higher dimensional birational geometry. However, the behavior of the multiplier ideals in positive characteristic can be quite enigmatic. We describe how the multiplier ideal transforms under certain kinds of finite separable morphisms in positive characteristic, and also demonstrate more general pathological behavior in specific examples. This leads to several open questions, including the general interest question of the surjectivity of the trace map. (Received April 13, 2010)