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Title: Frobenius homomorphisms in higher algebra

Abstract: We will discuss versions of the Frobenius homomorphism for a ring spectrum R: the Tate- valued Frobenius and the Frobenius on topological Hochschild homology. Similar to ordinary algebra, these morphism play an important role in higher algebra and are related to various concepts in stable homotopy theory and algebraic K-theory. We discuss the notion of perfectness, which is to say that these morphisms are equivalences, and relate this notion to the Segal conjecture, the red-shift conjecture new K-Theory computations and the classification of spaces by stable data.