THE FROBENIUS FUNCTOR
AND RINGS OF PRIME CHARACTERISTIC

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ABSTRACT. Let A be an m by n matrix with entries from a field of prime characteristic p. What happens to the kernel of A when we raise each entry to the pth power? We will answer this question and consider its generalization to matrices with entries from a commutative ring of prime characteristic p. Prime characteristic rings have played an important role in many recent advances in commutative algebra, and we will explore some classical and recent results in the study of such rings.