

# AN OBSERVATION REGARDING COORDINATE RINGS

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A question: is the coordinate ring  $K[V] = \{f \mid_V: f \in K[\mathbb{A}_K^n]\}$  of an affine variety  $V$  *literally* the set of regular maps  $V \rightarrow \mathbb{A}_K^1$ . Is there a canonical ring structure on the latter?

Consider  $\mathbb{A}_K^1$  as a 1 dimensional variety over  $K$ . Its automorphism group is  $K^\times \rtimes K$ , which acts transitively on its points, though not  $K$  linearly

## References