Title: A generalization of Tóth identity involving a Dirichlet character in $\mathbb{F}_q[T]$

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Let $\mathbb{A} = \mathbb{F}_q[T]$ be the polynomial ring over the finite field $\mathbb{F}_q$. In this article, we prove a generalization of Tóth identity to $\mathbb{A}$ involving arithmetical functions, multiplicative and additive characters.

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