

Sorensen, Claus M.**Divisible motives and Tate's conjecture.** (English) Zbl 1250.14005

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Let $\rho : \text{Gal}(\bar{F}/F) \rightarrow \text{GL}_{mn}(\bar{\mathbb{Q}}_l)$ be a continuous semisimple representation, unramified almost everywhere. In a letter to Clozel in 1991, Taylor showed that $\rho \cong \tilde{\rho}^{\oplus m}$ for some n -dimensional $\tilde{\rho}$, if (a) for unramified v , the eigenvalues of $\rho(\text{Frob}_v)$ have multiplicity at least m , and (b) for some $v|l$, and some $\tau : F_v \rightarrow \bar{\mathbb{Q}}_l$, each Hodge-Tate number has multiplicity m . In this paper the author gives a detailed proof of this result, and extend it to motives for absolute Hodge cycles by using Tannakian duality.

Reviewer: [Fumio Hazama \(Hatoyama\)](#)**MSC:****14C15** (Equivariant) Chow groups and rings; motives**11F80** Galois representations**Keywords:**

Galois representation; motives; absolute Hodge cycles

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