

**Hutchinson, Kevin**

**A new approach to Matsumoto's theorem.** (English) Zbl 0725.19001  
*K-Theory* 4, No. 2, 181-200 (1990).

The author gives a proof of Matsumoto's theorem on  $K_2$  of a field using techniques from homological algebra. On considering a complex associated to the action of  $\mathrm{GL}(2, F)$  on  $\mathbb{P}^1(F)$  for a field  $F$  he derives the unstable presentation for  $H_0(F^\bullet, H_2(\mathrm{SL}(2, F)))$  and, on considering the action of  $\mathrm{GL}(n+1, F)$  on  $\mathbb{P}^n(F)$  he proves the stability part of the theorem, that  $H_0(F^\bullet, H_2(\mathrm{SL}(2, F)))$  is isomorphic to  $H_2(\mathrm{SL}(F)) = K_2(F)$ .

Reviewer: [Manfred Kolster](#) (Hamilton/Ontario)

**MSC:**

[19C20](#) Symbols, presentations and stability of  $K_2$   
[11R70](#)  $K$ -theory of global fields

Cited in **10** Documents

**Keywords:**

[spectral sequence](#); [Matsumoto's theorem](#)

**Full Text:** [DOI](#)

**References:**

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