① ell. Kongruenz, Drehnetz ... FASERUNG $\mathcal{F}$ .... $\exists^*$

$\mathbb{C}$

$(\mathbb{V}, \mathcal{L})$.. aff. Transl. Ebene

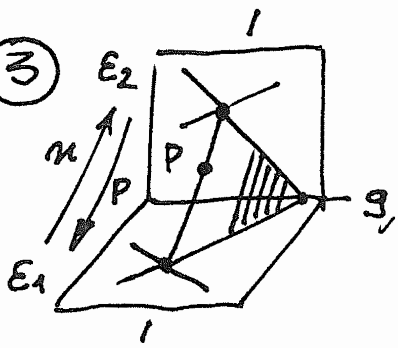
ANDRÉ (54), BRUCK, BOSE (64)

② K, L .. Körper $|L:K|_r = 2$

$\mathbb{V} = L^2$ über K, $(l_0, l_1)L_l$ $\in L^2 \setminus \{(0,0)\}$

$\mathcal{P}(\mathbb{V})$,

Faserung

③ 

$\varkappa : \mathcal{E}_1 \to \mathcal{E}_2$

(I) $g^\varkappa = g$

(II) $\varkappa | g$ ... fixpunktfrei

$\mathcal{D} = \{ X \vee X^\varkappa \mid X \in \mathcal{E}_1 \}$

duale Faserung $\exists^*$

Faserung $\neq$ duale Faserung BRUEN – FISHER (69)

BERNARDI (73)

$\varkappa_P : \mathcal{E}_1 \to \mathcal{E}_2$ hat Fixp $\Leftrightarrow$ $\exists$ Gerade $\in \mathcal{D}$ durch P

$\exists$ Fixger $\not\Rightarrow$ $\exists$ Fixpunkt MÄURER (88), COHN (73).

$\mathbb{V}^*, \mathcal{L}^*$ ..... Divisionsring L

(I) $\mathfrak{x}$lg... $(x_0, x_1) \mapsto (x_0^s, x_1^s)\begin{pmatrix} 0 & \alpha \\ 1 & \beta \end{pmatrix}$ $s \in \mathrm{Aut}(K)$ $\begin{cases} s \text{ äußerer Autom.} \\ s \text{ ist } \mathrm{id}_K. \end{cases}$

$\alpha \neq 0$

(II) $x^s x + x^s \beta - \alpha^s \neq 0 \quad \forall x \in K.$

L ist Körper $\Longleftrightarrow$

(*) $\beta = 0, \quad \alpha^s = \alpha, \quad x^{ss} = \alpha x \alpha^{-1} \ \forall x \in K$

(**) $\beta \neq 0, \quad \alpha, \beta \in Z(K), \quad s = \mathrm{id}_K.$

dann...

$\exists i \in L: \quad i^2 - i(a^{-1}b) - (a^{-1})^{s^{-1}} = 0$

$xi = ix^s \quad \forall x \in K. \qquad i^{-1}Ki = K.$

(4) P.M. COHN (60)

K, L vgl (2). $i \in L \setminus K$ beliebig

$y \in L: \ y = \alpha + i\beta \quad (\alpha, \beta) \in K^2$

$i\alpha = \alpha^D + i\alpha^S$ $\qquad$ $S: K \to K$ monomorph

$D: K \to K$ S-Derivation

$(\alpha+\beta)^D = \ldots$

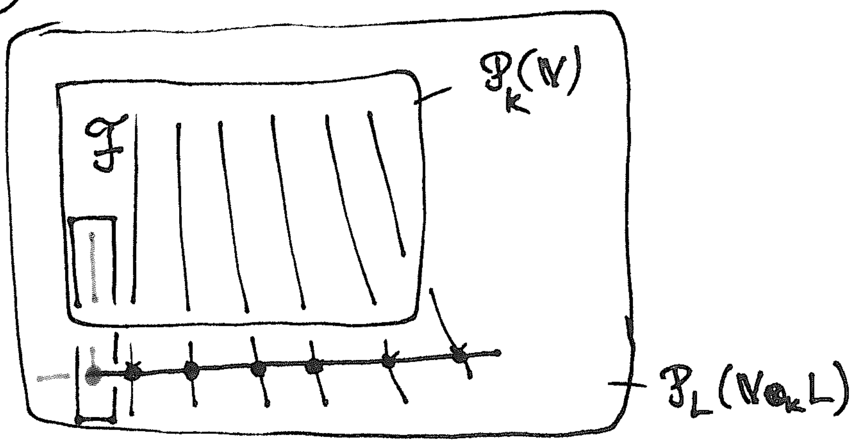
$i^2 + \lambda i + \mu = 0 \quad \lambda, \mu \in K.$ $\qquad (\alpha\beta)^D = \alpha^D \beta^S + \alpha \beta^D$

$xx^S + x\lambda + x^D + \mu \neq 0 \quad \forall x \in K$

(5) $\underbrace{\begin{pmatrix} \xi \\ \eta \end{pmatrix}}_{\in K^2} \mapsto \underbrace{\begin{pmatrix} \alpha \\ \beta \end{pmatrix}}_{\in K^2} \cdot \begin{pmatrix} \xi \\ \eta \end{pmatrix} = \underbrace{\begin{pmatrix} \alpha & \alpha^D - \mu\beta^S \\ \beta & \alpha^S - \lambda\beta^S + \beta^D \end{pmatrix}}_{\in K^{2\times 2}} \begin{pmatrix} \xi \\ \eta \end{pmatrix}$

$\underbrace{\begin{pmatrix} -i \\ 1 \end{pmatrix}}_{\in L^2}$ .. Eigenvektor

(6)



Indikatormenge

BRUEN, B. SEGRE
(72) (64)

Indikatorgerade!

$|L:K|_\ell = |K:K^s| + 1 \Rightarrow \mathcal{D}$ Faserung!

$\mathcal{F}$ duale F. $\Leftrightarrow$ $|L:K|_\ell = 2$.
$\Leftarrow$

(7) Bemerkungen:

KIST.(91), HIRSCHFELD(85), DENNISTON (73),
L ... K-ALGEBRA, ... KNARR (91)
BEUTELSPACHER-UEBERBERG.
BENZ .....