

FREE GROUPS IN A NORMAL SUBGROUP OF THE FIELD OF FRACTIONS OF A SKEW  
POLYNOMIAL RING

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Let  $k(t)$  be the field of rational functions over the field  $k$ , let  $\sigma$  be a  $k$ -automorphism of  $K = k(t)$ , let  $D = K(X; \sigma)$  be the ring of fractions of the skew polynomial ring  $K[X; \sigma]$ , and let  $D^\bullet$  be the multiplicative group of  $D$ . We show that if  $N$  is a non central normal subgroup of  $D^\bullet$ , then  $N$  contains a free subgroup.