

ALGEBRA  
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*Local-global principles for norms over semi-global fields*

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**Abstract:** Let  $K$  be a complete discretely valued field with residue field  $\kappa$ . Let  $F$  be a function field in one variable over  $K$  and  $\mathcal{X}$  a regular proper model of  $F$  with reduced special fibre  $X$  a union of regular curves with normal crossings. Suppose that the graph associated to  $\mathcal{X}$  is a tree (e.g.  $F = K(t)$ ). Let  $L/F$  be a Galois extension of degree  $n$  with Galois group  $G$  and  $n$  coprime to  $\text{char}(\kappa)$ . Suppose that  $\kappa$  is algebraically closed field or a finite field containing a primitive  $n^{\text{th}}$  root of unity. Then we show that an element in  $F^*$  is a norm from the extension  $L/F$  if it is a norm from the extensions  $L \otimes_F F_\nu/F_\nu$  for all discrete valuations  $\nu$  of  $F$ .

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