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Sumit Chandra Mishra* (sumitcmishra@gmail.com). *Local-global principles for norm one tori and multinorm tori over semi-global fields.*

Let K be a complete discretely valued field with the residue field κ . Let F be the function field of a smooth, projective, geometrically integral curve over K and \mathcal{X} be a regular proper model of F such that the reduced special fibre X is 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 . Assume that $\text{char}(\kappa)$ does not divide n . Suppose that κ is an algebraically closed field or a finite field containing a primitive n^{th} root of unity. Then we show that the local-global principle holds for the norm one torus associated to the extension L/F with respect to discrete valuations on F , i.e., an element in F^\times is a norm from the extension L/F if and only if it is a norm from the extensions $L \otimes_F F_\nu / F_\nu$ for all discrete valuations ν of F . We also prove that such a local-global principle holds for certain classes of multinorm tori over F with some assumptions on the residue field κ . (Received September 08, 2020)