

Newton Polygon and extension of valuations

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Abstract

Let (K, ν) be a rank one valued field and $L = K()$ a simple extension of K generated by α , a root of a monic irreducible polynomial $F(x) \in R_\nu[x]$, where R_ν is the valuation ring of (K, ν) . The goal of this paper is to describe all valuations of L extending ν . So what our results generalize that given in [?, ?, ?, ?]. For every valuation ν of L extending ν , the residue degree and ramification index are given. Some illustrating computation examples will be given too.

Extension of Valuations, Augmented Valuations, High Order Newton Polygon Techniques

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