

distinct treatment of HCF rings of Krull type and of URD's.

But we have adopted this approach because it is easier

going from HCF rings of Krull type to URD's in the sense

that we get the concept of a packet using the strict defi-

nition of the rings of Krull type, which it would have been

difficult to visualize in the general case.

1. Rings of Krull Type.

Griffin in [21] introduced the notion of a ring of Krull

type as a special case of the rings of finite character. The

basic notion in the theory of rings of finite character is

that of a valuation v over a field K . And for the sake of

completeness we include the

Definition 1. Let G be a totally ordered group under addition and let $G^* = G \cup \{\infty\}$ be the group including the

symbol ∞ with the properties

$$g + \infty = \infty + g = \infty + \infty = \infty; \quad g \in G$$

then the function $v: K \rightarrow G^*$ such that

$$(1) \quad v(a) = \infty \quad \text{iff} \quad a = 0$$

$$(2) \quad v(xy) = v(x) + v(y)$$

$$(3) \quad v(x + y) \geq \min(v(x), v(y))$$

is called a valuation of K (or over K).

If v is a valuation of a field K , then the set

$$R_v = \{x \in K \mid v(x) \geq 0\}$$

called the valuation ring of v .

Let \mathcal{V} be a family of valuations of a field K and let

$$R = \bigcap_{v \in \mathcal{V}} R_v; \quad v \in \mathcal{V} \text{ then } R \text{ is called the ring determined by}$$

the family \mathcal{V} . Moreover the family \mathcal{V} of valuations of K is

said to be of finite character if for each $x \in K$ the set

$$\{v \in \mathcal{V} \mid v(x) \neq 0\} \text{ is finite.}$$

In other words we can assume that \mathcal{V} consists of the