

**Corrections to “Covering data and higher dimensional global class field theory” by Moritz Kerz and Alexander Schmidt**

1: In the statement of Lemma 3.1 (ii), the assumption ‘normal’ should be replaced by ‘regular’ (we use it only in the regular case). The mistake is at the end of the proof where it is written ‘By Proposition 1.5, every  $x \in X$  is a regular point of a curve on  $X$  which meets  $U$ ’. But Proposition 1.5 does not apply. Moreover, this statement is not true for a general normal scheme (any singular point on a two-dimensional factorial but not regular scheme gives a counter example). There are several ways to argue in the regular case. For example:

After localization, we may assume that  $x$  is the unique closed point on  $X = \text{Spec}(A)$  where  $A$  is a  $d$ -dimensional regular local ring,  $d \geq 2$ . By induction, it suffices to find a regular divisor  $D$  on  $X$  which meets  $U$ . Let  $(f_1, \dots, f_d)$  be a regular sequence in  $A$ . Then  $f_d$  is a prime element in the regular local ring  $A/(f_1)$ , hence the powers  $f_d^i$ ,  $i \geq 1$ , generate pairwise different principal ideals in  $A/(f_1)$ . This implies that  $D_i = V(f_1 + f_d^i)$ ,  $i \geq 1$ , are infinitely many pairwise different regular divisors on  $X$ . One of them meets  $U$ .

2: Section 4, third paragraph, last line: replace ‘contains’ by ‘is contained’.

3: Section 6, paragraph after Prop. 6.1, third line: replace ‘the infinite direct product’ by ‘the infinite direct sum’.

Remark: The topology of the direct sum is the finest *group* topology which induces the product topology on all finite subproducts. It is finer than the “box-topology” which is the restriction to  $\bigoplus_{i \in I} A_i$  of the topology on  $\prod_{i \in I} A_i$  having all products  $\prod_{i \in I} U_i$  ( $U_i$  an open neighbourhood of 0 in  $A_i$ ) as a fundamental system of open neighbourhoods of 0. If  $I$  is countable, both topologies coincide (see Prop. 7 of Chasco, M.; Domínguez, X. *Topologies on the direct sum of topological abelian groups*. Topology Appl. 133 (2003), no. 3, 209–223).

4: Section 7, second definition: the map  $f_*^{v \rightarrow y} : k(C)_v^\times \rightarrow \mathbb{Z}$  should be defined as the valuation map  $v : k(C)_v^\times \rightarrow \mathbb{Z}$  multiplied by  $[k(v) : k(y)]$ , where  $k(v)$  is the residue field of  $v$ .