Eine Woche, ein Beispiel

6.27 adèles and idèles

I would recommend this paper: https://people.math.umass.edu/~weston/oldpapers/idele.pdf.
After reading it, you may learn:
- The definition of two topology space adèles and idèles
- Basic properties of them (subspaces, canonical map...)
- Use this to prove the finiteness of the ideal class group and the generalized Dirichlet unit theorem

2022.08.28_global_field is my personal notes in this direction.

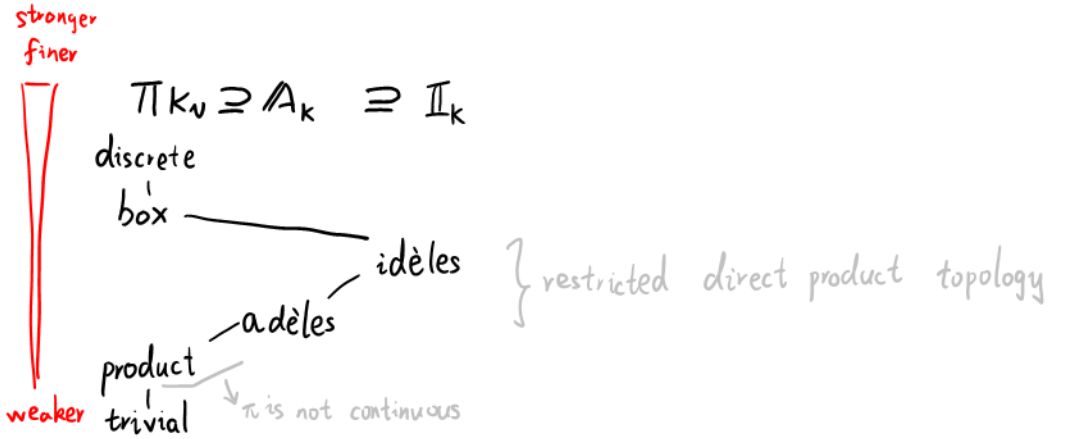
discrete subtopology
compact quotient

Slogen: A good ambient space can make researched objects into "full lattice"!

objects	ambient space
$\mathcal{O}_K$	$\mathbb{R}^{r_1} \times \mathbb{C}^{r_2}$
$\mathcal{O}_K^\times / U_K$	$H \subseteq \mathbb{R}^{n_1+r_2}$
K	$\mathbb{A}_K$
$K^\times$	$\mathbb{I}_K' \subseteq \mathbb{I}_K$

K: number field

$\mathbb{A}_K$, $\mathbb{I}_K'$ are not linear space



From [https://math.stackexchange.com/questions/2869928/definition-of-the-weil-group-question-about-exact-sequence-with-inertia-group-a] : A caveat is that the topology on the Weil group is not the subspace topology, but finer than the subspace topology. We require that (the image of) the inertia group be open.