

1:00 p.m. Tuesday Enrique Alvarado
Yunfeng Hu

10^{or} 11 Wednesday Katriin Sabochick

Exercises:

#1 September 18 2-4

Notes: Heart of the proof of:

$\boxed{\text{if}}$ X is a separable space and
 $E \subset X$ and $E \subset \bigcup_{\alpha \in A} O_{\alpha}$

$\boxed{\text{then}}$ there is a countable subcollection
of $\{O_{\alpha}\}_{\alpha \in A}$, $\{O_{\alpha_i}\}_{i=1}^{\infty} \subset \{O_{\alpha}\}_{\alpha \in A}$

$\Rightarrow E \subset \bigcup_{i=1}^{\infty} O_{\alpha_i}$

IS ...



use a countable dense subset $\{f_i\}_{i=1}^{\infty}$
to find, for any $x \in E$

$$x \in B(f_i, \frac{1}{2^k}) \subset O_\alpha$$

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$$" B_\alpha " \quad O_{\alpha, \beta}$$