

$(\mathcal{L}, \delta_{\square})$ is Compact

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(Lovász - Szegedy)

Let $f_1, f_2, \dots \in \mathcal{W}$ arbitrary

Let $f_{n,k} = (f_n)_{\mathcal{P}_k}$ s.t. $|\mathcal{P}_k| \leq 2^{2k^2}$ &

$\|f_n - f_{n,k}\|_{\square} < 1/k$. (WRL)

Assume: each \mathcal{P} consists of intervals
& $\mathcal{P}_{n,k+1}$ refines $\mathcal{P}_{n,k}$.

Subsequence s.t. $\forall k \ f_{n,k} \rightarrow u_k$
(pointwise a.e. on I^2)

Random $(x,y) \in I^2$.

Martingale $(u_1(x,y), u_2(x,y), \dots)$

(Doob) \Rightarrow w. prob 1, $u_i(x,y)$ converges
(to $u(x,y)$)