

$f: I^2 \rightarrow \{0,1\} \Rightarrow \text{stable}$

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Let  $(f_n) \xrightarrow{\delta_D} f$  &  $\varepsilon > 0$

Let  $f_{n,\varepsilon}$ ,  $u=f$ ,  $\kappa$ ,  $n_0$  be as in the compactness proof. Let  $n, m > n_0$ .

$$\begin{aligned} \|f_m - f_n\|_1 &\leq \|f_m - f_{m,\kappa}\|_1 + \|f_{m,\kappa} - u\|_1 + \\ &+ \|f_n - f_{n,\kappa}\|_1 + \|f_{n,\kappa} - u\|_1 \end{aligned}$$

$\leftarrow \varepsilon$

$$A = \{x \in I^2 : f_{n,\kappa}(x) \in (\sqrt{\varepsilon}, 1 - \sqrt{\varepsilon})\}$$

$$\lambda(A) \leq \sqrt{\varepsilon}$$

$$\|f_n - f_{n,\kappa}\|_1 \leq \int_A + \int_{I^2 \setminus A} \leq 2\sqrt{\varepsilon} + 2\sqrt{\varepsilon}.$$

□