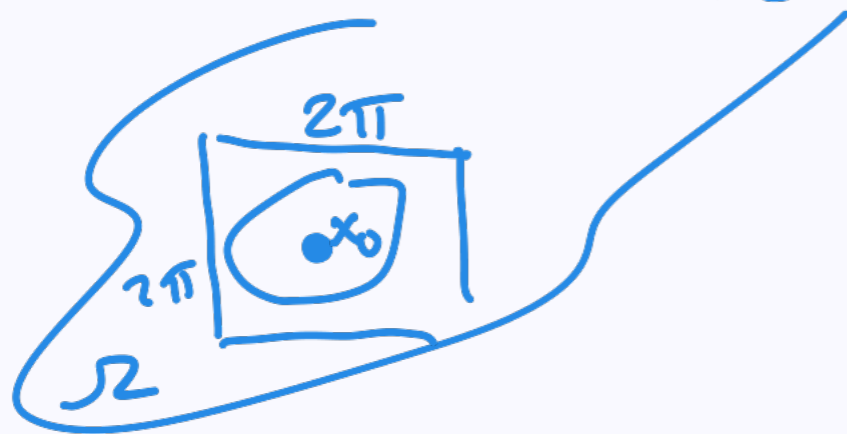


Sobolev - regularitet

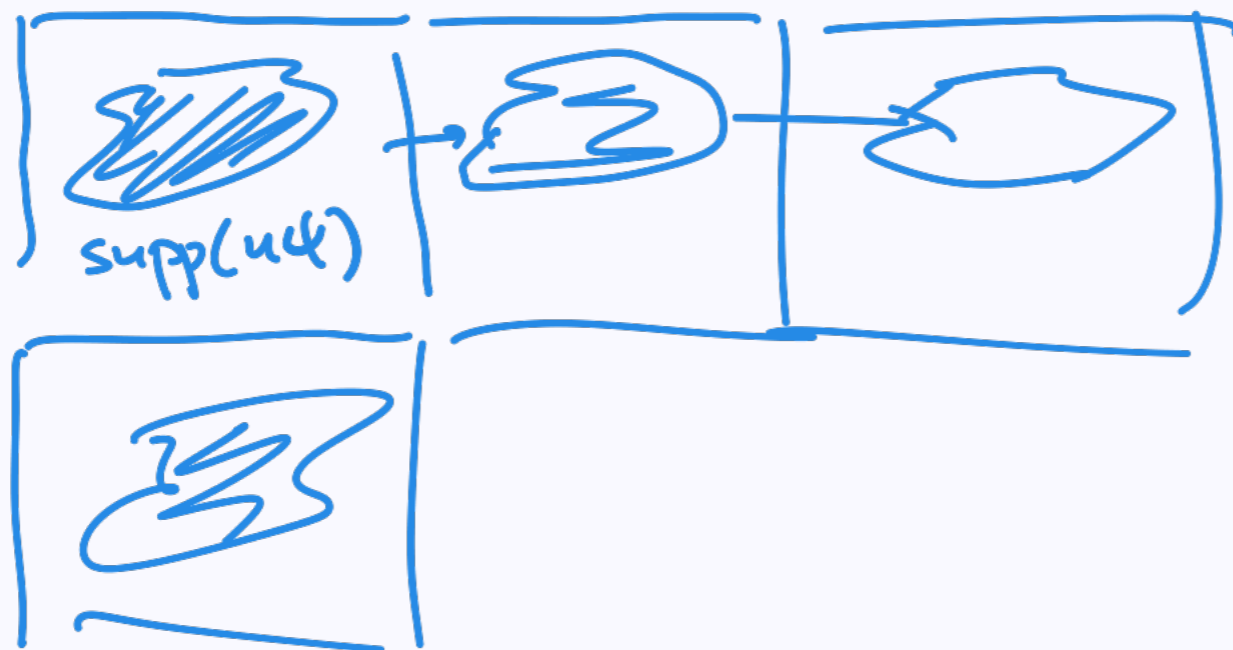
Teorem: Anta $\Omega \subseteq \mathbb{R}^n$ er et område.

Dersom $m > k + \frac{n}{2}$, er $H_{loc}^m(\Omega) \subset C^k(\Omega)$.

Bevis: Anta $u \in H_{loc}^m(\Omega)$. Velg $\psi \in C_c^\infty(\Omega)$,
 $\psi(x_0) \neq 0$. Skal vis: $u\psi \in C^k$.



$$\tilde{u}\psi \in H^m(\mathbb{T}^n) \implies \tilde{u}\psi \in C^k(\mathbb{T}^n)$$



\Downarrow
 u er C^k nær x_0