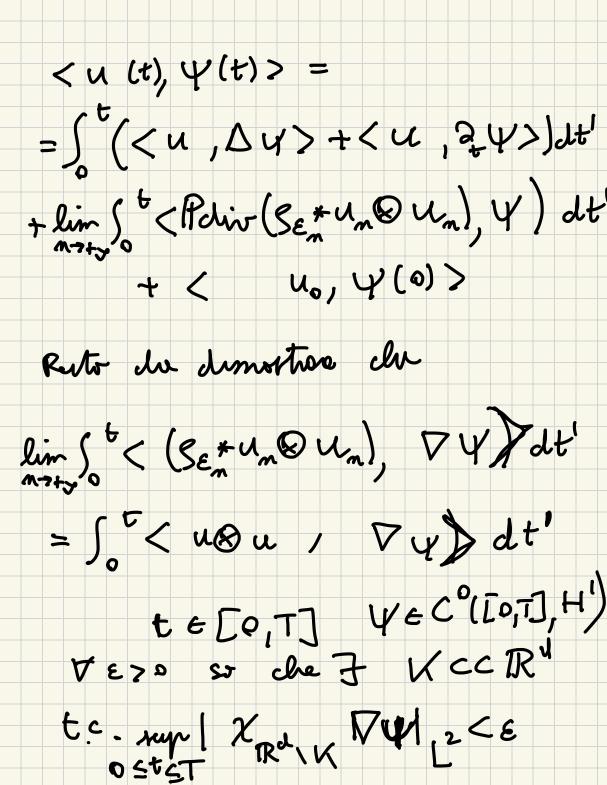
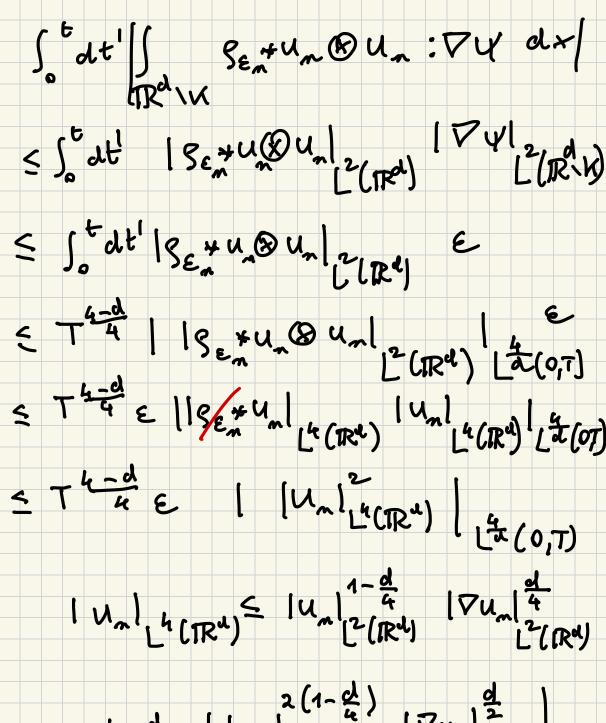


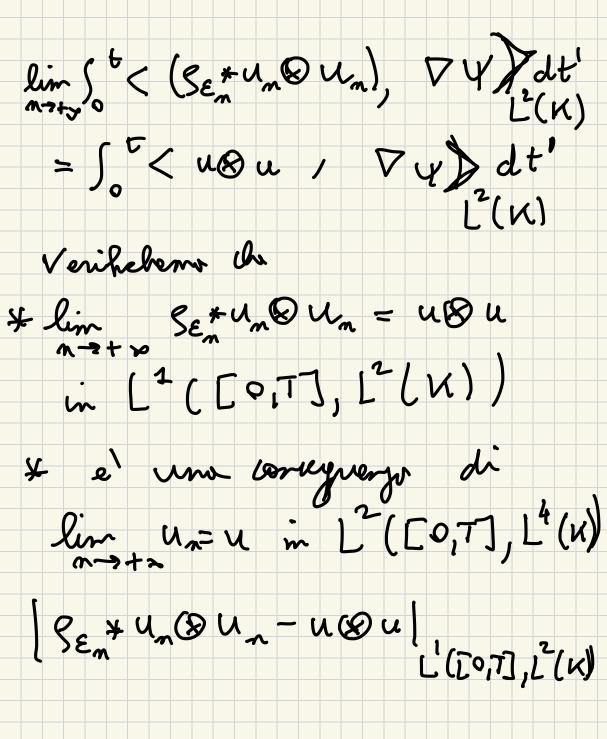
$$\begin{aligned}
u \in L^{\infty}(\mathbb{R}_{+}, L^{2}(\mathbb{R}^{3}, \mathbb{R}^{3}) \\
\nabla u \in L^{2}(\mathbb{R}_{+}, L^{2}(\mathbb{R}^{3}, \mathbb{R}^{3}) \\
|u(t)|_{l^{2}}^{2} + 2 \int_{0}^{t} |\nabla u|_{l^{2}}^{2} dt' \\
&\leq |u_{0}|_{l^{2}}^{2} \\
&< u_{n}(t), \Psi(t) > = \\
&= \int_{0}^{t} (< u_{n}, \Delta y) + < u_{n}, 2\Psi \\
&< |Pdiv(S_{e_{n}} + u_{n} \otimes u_{n}), \Psi) dt' \\
&+ < |S_{e_{n}} + u_{0}, \Psi(0) > \\
&\forall \Psi \in C_{co}^{\infty}([0, +\infty), \mathbb{R}^{3}, \mathbb{R}^{3})
\end{aligned}$$

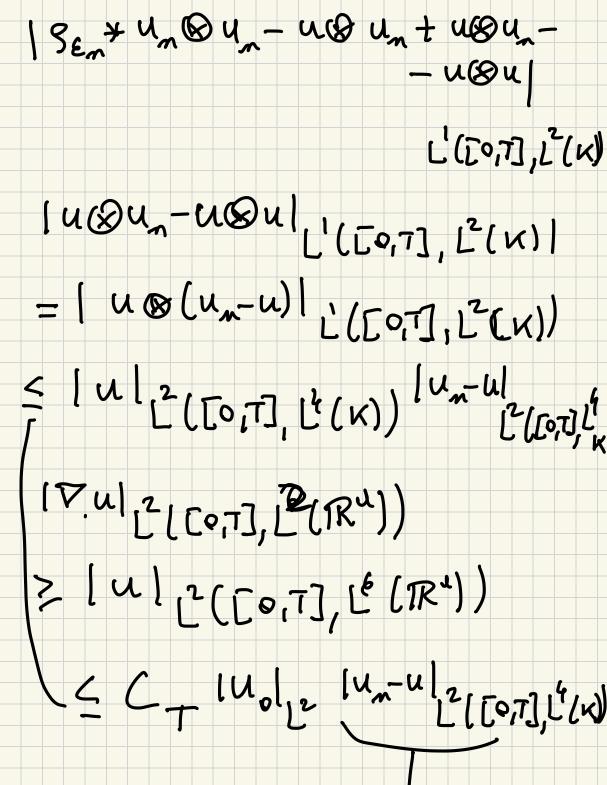


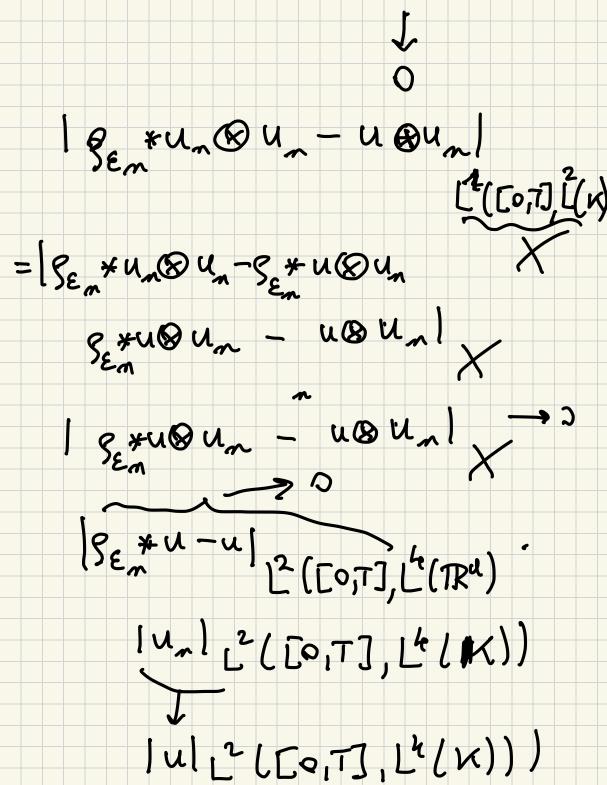


 $= \frac{2(1-c!)}{2(1-c!)} \left[\nabla u_n \right]_{\frac{1}{2}(\mathbb{R}^n)}^{\frac{1}{2}} \left[\nabla u_n \right]_{\frac{1}{2}(\mathbb{R}^n)}^{\frac{1}{2}} \left[(0,T) \right]_{\frac{1}{2}(\mathbb{R}^n)}^{\frac{1}{2}(\mathbb{R}^n)} \left[(0,T) \right]_{\frac{1}{2}(\mathbb$

$$\leq T \frac{k-d}{k} \in \left[|u_{0}|_{L^{2}(\mathbb{R}^{d})}^{2} \right] \left[|\nabla u_{m}|_{L^{2}(\mathbb{R}^{d})}^{\frac{d}{2}} \right]_{L^{2}(\mathbb{R}^{d})} \\
= T \frac{k-d}{k} \left[|u_{0}|_{L^{2}(\mathbb{R}^{d})}^{2(1-\frac{d}{2})} \right] \left[|\nabla u_{m}|_{L^{2}(\mathbb{R}^{d})}^{\frac{d}{2}} \right]_{L^{2}(\mathbb{R}^{d})} \\
\leq \left[|u_{0}|_{L^{2}(\mathbb{R}^{d})}^{2(1-\frac{d}{2})} \right] \left[|\nabla u_{m}|_{L^{2}(\mathbb{R}^{d})}^{\frac{d}{2}} \right]_{L^{2}(\mathbb{R}^{d})} \\
\leq \left[|u_{0}|_{L^{2}(\mathbb{R}^{d})}^{2(1-\frac{d}{2})} \right] \left[|\nabla u_{m}|_{L^{2}(\mathbb{R}^{d})}^{\frac{d}{2}} \right]_{L^{2}(\mathbb{R}^{d})} \\
\leq C_{T} \leq \left[|u_{0}|_{L^{2}(\mathbb{R}^{d})}^{2(1-\frac{d}{2})} \right]$$







SE = 1 = 0 S = -id) =uell2 [Sen * u - u [2 ([o,T], L4 (TRa)) Si demostro wrino supporente u e C° ([Q,T], Lh(IR4) e von u e L² ([o,T], L4 (Rª)

$$\lim_{R \to +\infty} u_n = u \text{ in } L^2([0,T], L^4(u))$$

$$\chi \in C_{\infty}^{\infty}(\mathbb{R}^d, [0,1])$$

$$\xi = \lim_{R \to \infty} |\nabla \chi|_{L^{\infty}(\mathbb{R}^d)} |\nabla \chi|_{L^{\infty}(\mathbb{R}^d)}$$

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$$\xi = \lim_{R \to \infty} |\nabla \chi|_{L^{\infty}(\mathbb{R}^d)} |\nabla \chi|_{L^{\infty}($$

$$\leq |f|^{1-\frac{d}{4}} |f|^{\frac{d}{4}} |R^{\frac{d}{4}}|$$

$$|f|^{\frac{d}{4}} |K^{\frac{d}{4}}|$$

$$\leq |f|^{1-\frac{d}{4}} |f|^{\frac{d}{4}} |K^{\frac{d}{4}}|$$

$$= |f|^{1-\frac{d}{4}} |F|^{\frac{d}{4}} |K^{\frac{d}{4}}|$$

$$= |u-u_{n}|^{\frac{d}{4}} |K^{\frac{d}{4}}|$$

$$= |u-u|^{\frac{d}{4}} |K^{\frac{d}{4}}|$$

Tuo=+00

z) le Tuo<+00 ollum

$$\int_{0}^{T_{u}} \left[u(t) \right]_{0}^{t} \left[\frac{1}{2} \left(\mathbb{R}^{2}, \mathbb{R}^{3} \right) \right]_{0}^{t} \left[u(t) \right]_{0}^{t} \left[\mathbb{R}^{2}, \mathbb{R}^{2} \right]_{0}^{t}$$

3) se u e v nom whywi ollum

$$\int_{0}^{2} u(t) - v(t) \Big|_{\dot{H}_{0}^{2}-1}^{2} + \int_{0}^{1} \left[\nabla (u-v) \right]_{0}^{t} dt$$

$$\leq |u_{0}-v_{0}|_{\dot{H}_{0}^{2}-1}^{2} + \int_{0}^{1} \left[\nabla (u-v) \right]_{0}^{t} dt$$

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$$\int_{0}^{2} u - \Delta u = - |P| \operatorname{dir}(u \otimes u)$$

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