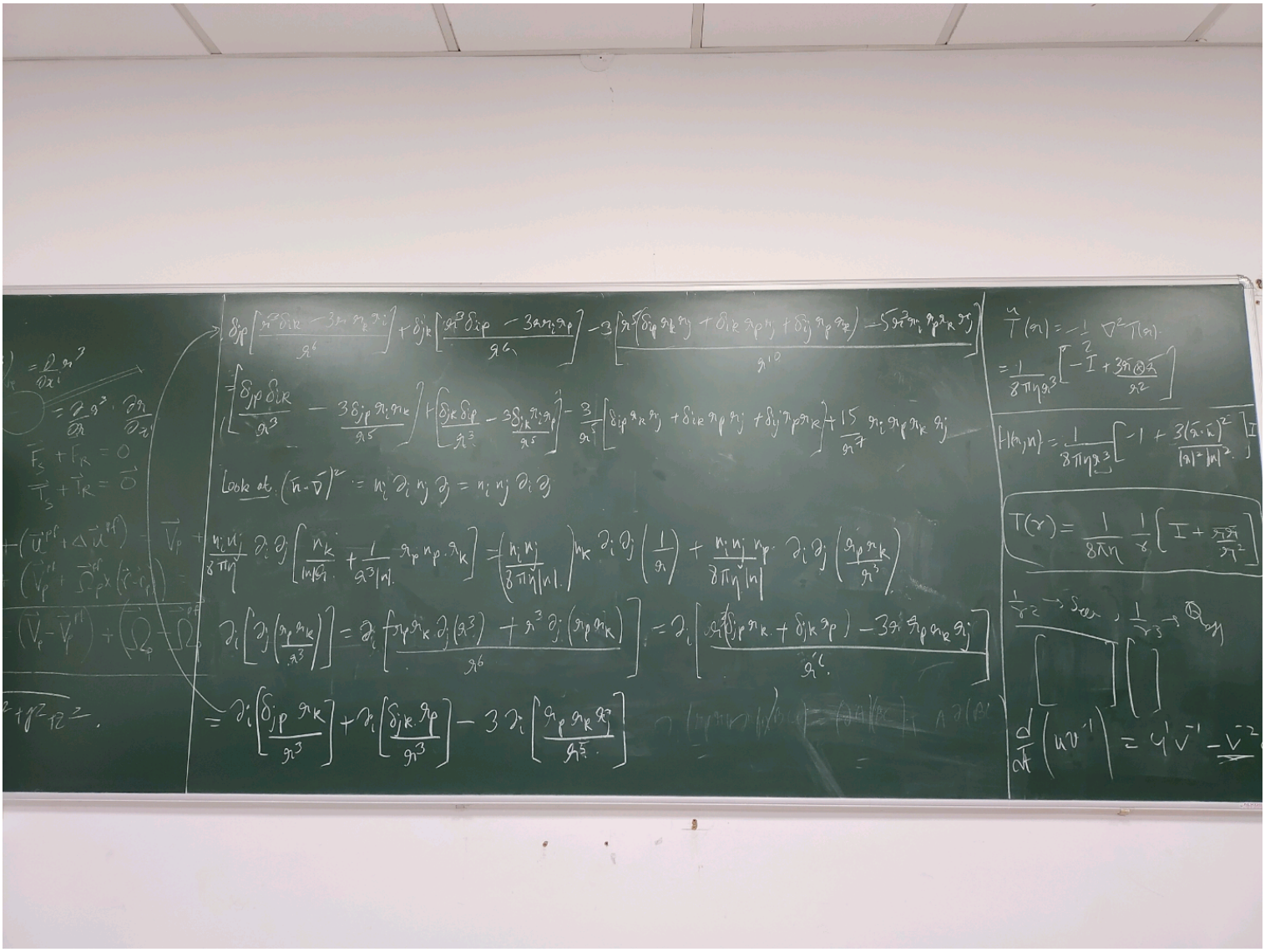

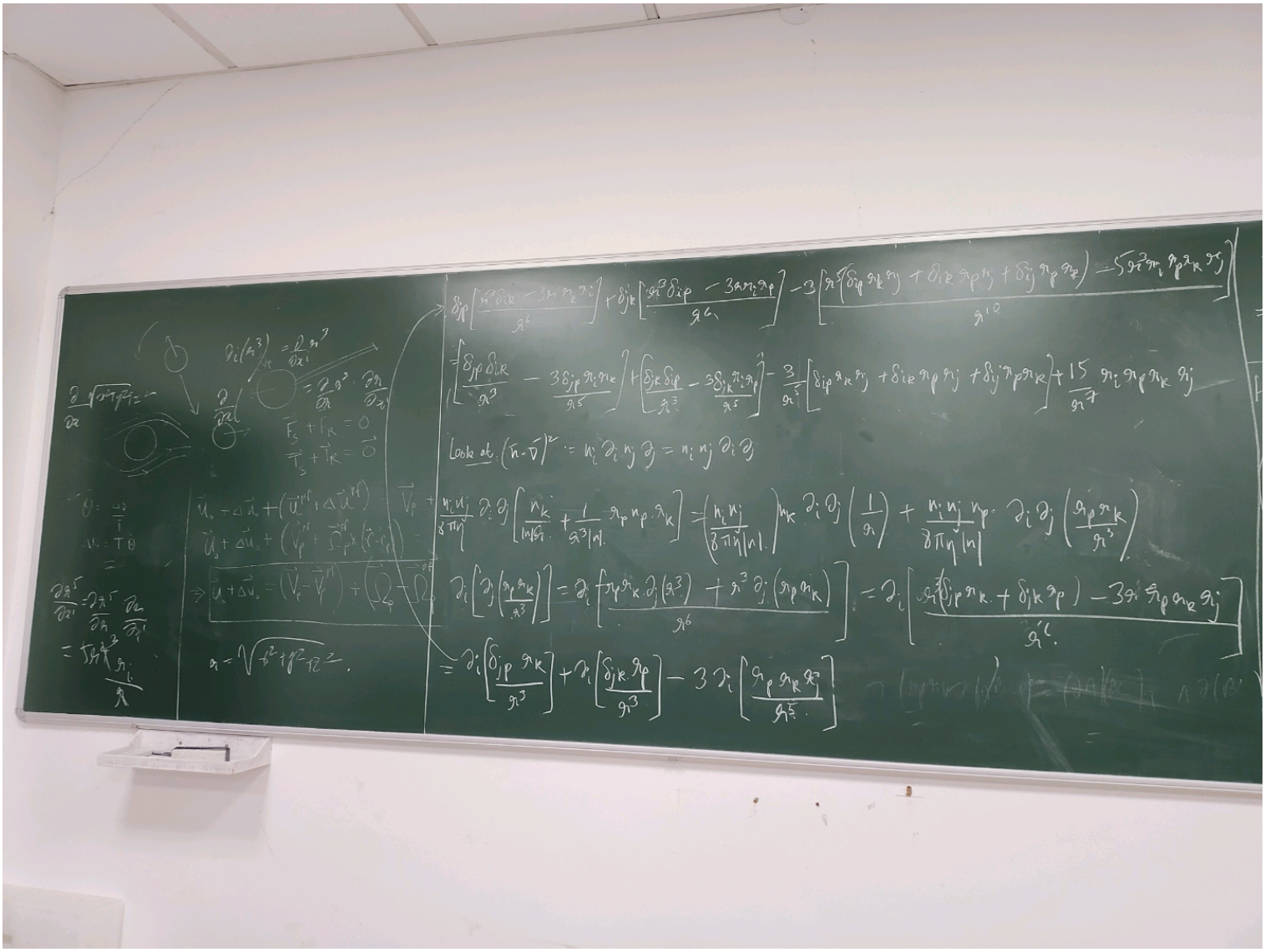

$\bar{n}\cdot\bar{n}$ $\quad r_i r_k n_i n_j n_k$

$\partial_i(r^3) = \frac{\partial}{\partial x^i} r$

$= \frac{\partial}{\partial r} r^3 \cdot \frac{\partial r}{\partial x_i}$

$F_s + F_R = 0$

$\vec{V}_p$

$r_k r_j n_i n_j n_k$

∂_j

$$\delta_{jp}\left[\frac{r^3\delta_{ik} - 3r r_k r_i}{r^6}\right] + \delta_{jk}\left[\frac{r^3\delta_{ip} - 3r r_i r_p}{r^6}\right] - 3\left[\frac{r^5(\delta_{ip} r_k r_j + \delta_{ik} r_p r_j + \delta_{ij} r_p r_k) - 5r^3 r_i r_p r_k r_j}{r^{10}}\right]$$

$$= \left[\frac{\delta_{jp}\delta_{ik}}{r^3} - \frac{3\delta_{jp} r_i r_k}{r^5}\right] + \left[\frac{\delta_{jk}\delta_{ip}}{r^3} - \frac{3\delta_{jk} r_i r_p}{r^5}\right] - \frac{3}{r^5}\left[\delta_{ip} r_k r_j + \delta_{ik} r_p r_j + \delta_{ij} r_p r_k\right] + \frac{15}{r^7} r_i r_p r_k r_j$$

Term: $$\frac{1}{8\pi\eta|n|}\left[\frac{\bar{n}|n|^2}{r^3} - \frac{3\bar{r}(\bar{r}\cdot\bar{n})|n|^2}{r^5} + \frac{\bar{n}|n|^2}{r^3} - \frac{3(\bar{r}\cdot\bar{n})^2\bar{n}}{r^5} - \frac{3}{r^5}|n|^2(\bar{r}\cdot\bar{n})\bar{r}\right.$$

$$\left. - \frac{3}{r^5}(\bar{r}\cdot\bar{n})^2\bar{n} - \frac{3}{r^5}|\bar{n}|^2(\bar{r}\cdot\bar{n})\bar{r} + \frac{15}{r^7}(\bar{r}\cdot\bar{n})^3\bar{r} + \frac{3(\bar{r}\cdot\bar{n})^2\bar{n}}{r^5} - \frac{|n|^2\bar{n}}{r^3}\right]$$

$$\frac{n_i n_j n_k\, \partial_i \partial_j\left(\frac{1}{r}\right)}{8\pi\eta|n|} = \frac{n_i n_j n_k}{8\pi\eta|n|}\partial_i\left[\frac{-r_j}{r^3}\right] = \frac{-n_i n_j n_k}{8\pi\eta|n|}\left[\frac{\delta_{ij} r^3 - 3r r_i r_j}{r^6}\right]$$

$$= -\frac{n_i n_i n_k}{r^3} + 3\frac{(r\cdot n)^2 n_k}{r^5}$$

$$\tilde{T}(r) = -\frac{1}{2}\nabla^2 T(r)$$

$$= \frac{1}{8\pi\eta r^3}\left[-I + \frac{3\bar{r}\otimes\bar{r}}{r^2}\right] n_i n_j$$

$$H(r,n) = \frac{1}{8\pi\eta r^3}\left[-1 + \frac{3(\bar{r}\cdot\bar{n})^2}{|r|^2|n|^2}\right]$$

$$T(r) = \frac{1}{8\pi\eta}\frac{1}{r}\left[I + \frac{r r}{r^2}\right]$$

$\frac{1}{r^2} \to S_{er}$, $\quad \frac{1}{r^3} \to Q_{eff}$

$$\frac{d}{dt}\left(u v^{-1}\right) = u' v^{-1} - \dots$$

$$\delta_{jp}\left[\frac{r^3\delta_{ik}-3r\,r_k r_i}{r^6}\right]+\delta_{jk}\left[\frac{r^3\delta_{ip}-3r\,r_i r_p}{r^6}\right]-3\left[\frac{r^5(\delta_{ip}r_k r_j+\delta_{ik}r_p r_j+\delta_{ij}r_p r_k)-5r^3 r_i r_p r_k r_j}{r^{10}}\right]$$

$$=\left[\frac{\delta_{jp}\delta_{ik}}{r^3}-\frac{3\delta_{jp}r_i r_k}{r^5}\right]+\left[\frac{\delta_{jk}\delta_{ip}}{r^3}-\frac{3\delta_{jk}r_i r_p}{r^5}\right]-\frac{3}{r^5}\left[\delta_{ip}r_k r_j+\delta_{ik}r_p r_j+\delta_{ij}r_p r_k\right]+\frac{15}{r^7}r_i r_p r_k r_j$$

Term: $\frac{1}{8\pi\eta|n|}\left[\frac{\vec{n}\,|n|^2}{r^3}-\frac{3\vec{r}\,(\vec{r}\cdot\vec{n})|n|^2}{r^5}+\frac{\vec{n}\,|n|^2}{r^3}-\frac{3(\vec{r}\cdot\vec{n})^2\vec{n}}{r^5}-\frac{3}{r^5}|n|^2(\vec{r}\cdot\vec{n})\vec{r}\right.$

$\left.-\frac{3}{r^5}(\vec{r}\cdot\vec{n})^2\vec{n}-\frac{3}{r^5}|\vec{n}|^2(\vec{r}\cdot\vec{n})\vec{r}+\frac{15}{r^7}(\vec{r}\cdot\vec{n})^3\vec{r}+\frac{3(\vec{r}\cdot\vec{n})^2\vec{n}}{r^5}-\frac{|n|^2\vec{n}}{r^3}\right]$

$$\frac{n_i n_j n_k}{8\pi\eta|n|}\partial_i\partial_j\left(\frac{1}{r}\right)=\frac{n_k}{|n|}\partial_i\left[\frac{-r_j}{r^3}\right]=\frac{-n_i n_j n_k}{8\pi\eta|n|}\left[\frac{\delta_{ij}r^3-3r\,r_i r_j}{r^6}\right]$$

$$(\hat{n}\cdot\nabla)^2\left[\overline{\overline{T}}(r)\cdot\hat{n}\right]$$

$$=-n_i n_j n_k\left[\frac{\delta_{ij}r_k}{r^3}+\frac{3(r\cdot n)^2 n_k}{r^5}\right]$$

$$\overline{\overline{T}}(r)=\frac{1}{8\pi\eta r^3}\left[\overline{\overline{I}}-\frac{r}{2}\right]$$

$$F(n)=\frac{1}{8\pi\eta r^3}$$

$$T(r)=\frac{1}{8\pi\eta}$$

$$\frac{1}{r^2}\to S_{ver}$$

$$\frac{d}{dt}\left(uv^{-1}\right)=$$