$\hat{z}$ r $\longrightarrow e^- \to \hat{x}$

$\longrightarrow \vec{p}$

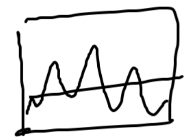
$\hat{y}$ $\to x$

G + $r_p, r_s \longrightarrow$ #370 — I

$c \to \infty$ $\quad r_p = \dfrac{\alpha_0}{\alpha - \alpha_0} \longrightarrow \ldots$ — II

$(p_z ?)$

o o O o O $\quad \underset{\text{dipoles}}{\Sigma} \to \underset{n}{\Sigma}$ s - p



Re Im

$\beta \times \beta_y, \beta_x$

R

III $(c \to \infty)$

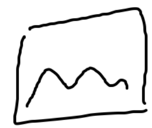
pp - array
ry - array
film

$\to$ 1 dim.

$\to$ array $\longrightarrow p_z?$

vs

array = $\underset{\text{dipoles}}{\Sigma}$



$K_p = \eta \quad \omega(\omega + i\gamma)$

$e^{iK_p x} = e^{iK_p^r x}\, e^{-K_p^i x}$

$$\frac{K_p^i}{K_p^r} = \frac{\gamma}{\omega} = \frac{1}{2L_p}\frac{\lambda_p}{2\pi} = \frac{\lambda_p}{L_p}\frac{1}{4\pi}$$

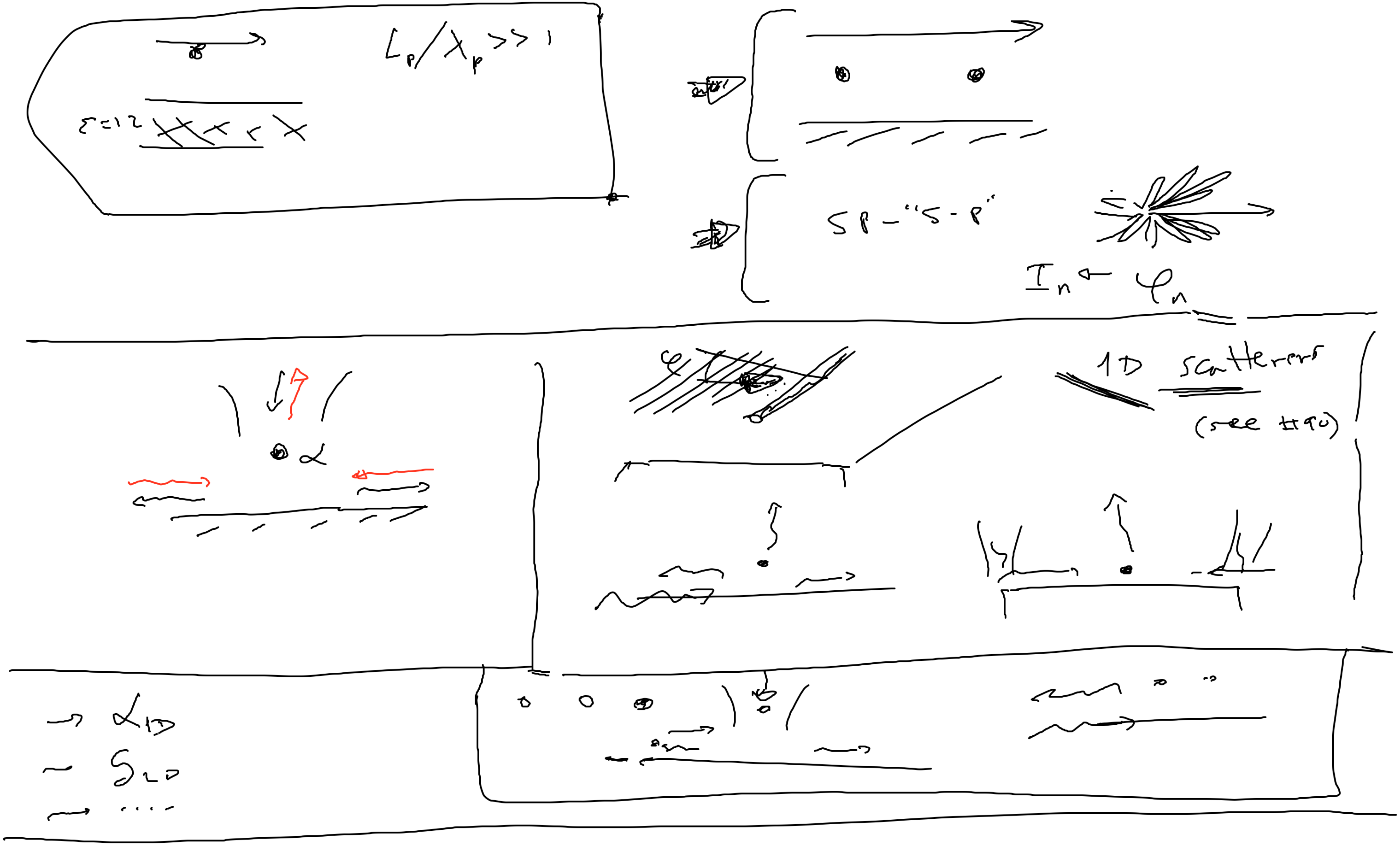
$|\phi|^2 \propto e^{-2K_p^i x} \longrightarrow x = L_p = \dfrac{1}{2K_p^i}$ $\quad \left(\begin{matrix}1/e \\ I \downarrow\end{matrix}\right)$

$$\longrightarrow L_p = \frac{\lambda_p}{4\pi}\frac{\omega}{\gamma} \longrightarrow$$

$\hbar\gamma = 0.1$ meV
$\hbar\omega = 40 - 80$ meV

$\to L_p \approx \lambda_p \times (32 - 64)$

x



Lp/λp >> 1
ε=12
sp – "s-p"
In ← φn
1D scatterers
(see #90)
α
φ
α1D
S1D
....

e^-

α

$r_p \approx \frac{\Omega_0}{\Omega - \Omega_0}$

$\mathrm{Re}\{\Omega_0\} >> \mathrm{Im}\{\Omega_0\} > 0$

$p = \frac{1}{1/\alpha - G} E^{ext}$

$\bar{p}$

LDOS $\mathcal{L}$

$c \to \infty$

$\frac{\Gamma}{\Gamma_0}$ ← course

$k = \frac{\omega}{c}$

$\simeq 1 + \frac{3}{4k^3} \nu \int_0^\infty Q^2 \, dQ \; \mathrm{Im}\{r_p\} \cdot e^{-2Qz_0}$

$\nu = 1$ //

$\nu = 2$ ⊥

$\simeq \frac{3\nu e^{-2\Omega_0 z}}{4k^3} \pi \Omega_0^3 = \frac{3\pi\nu}{4} \left(\frac{\lambda_0}{\lambda_p}\right)^3 e^{-2\Omega_0 z}$