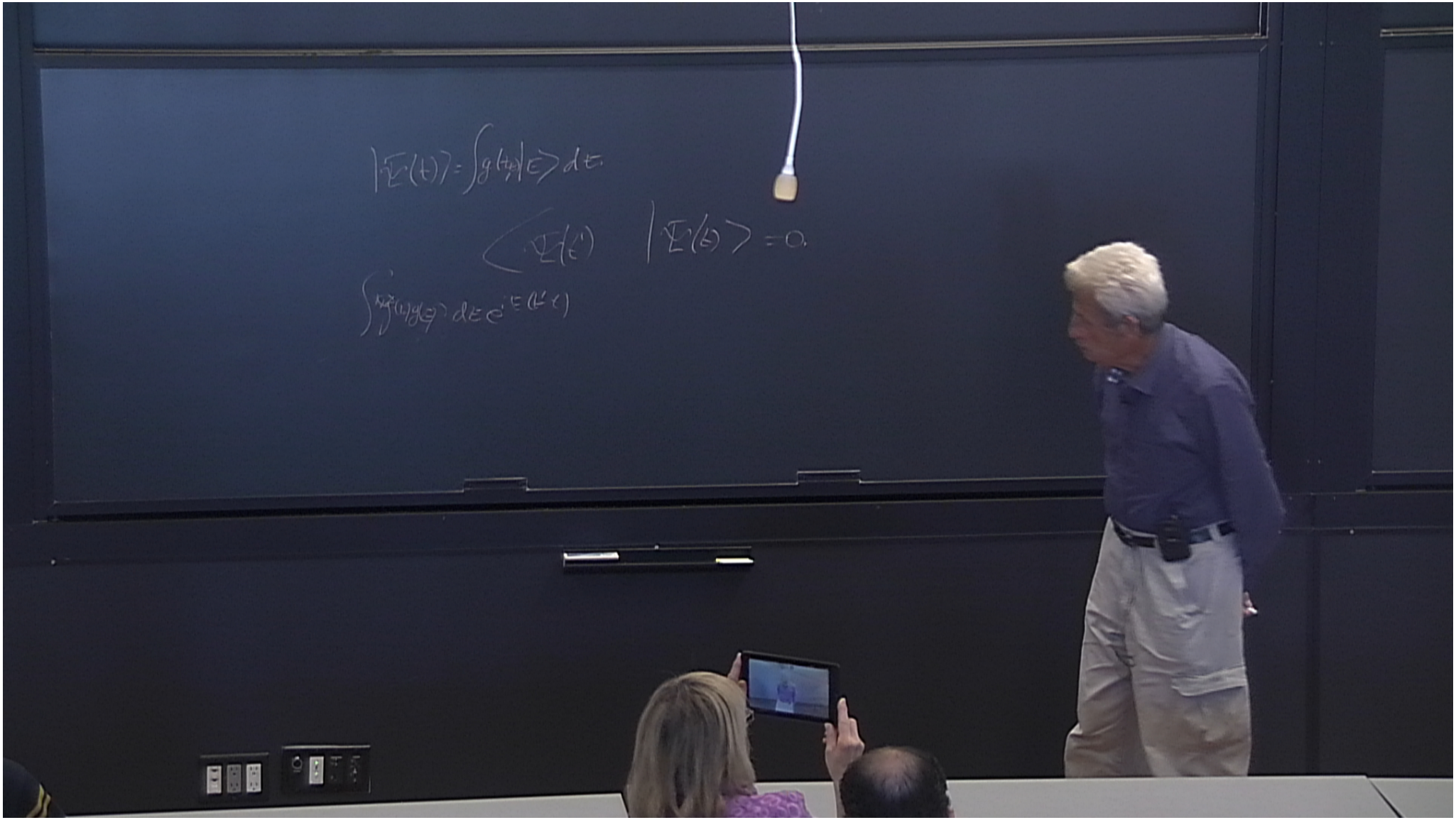
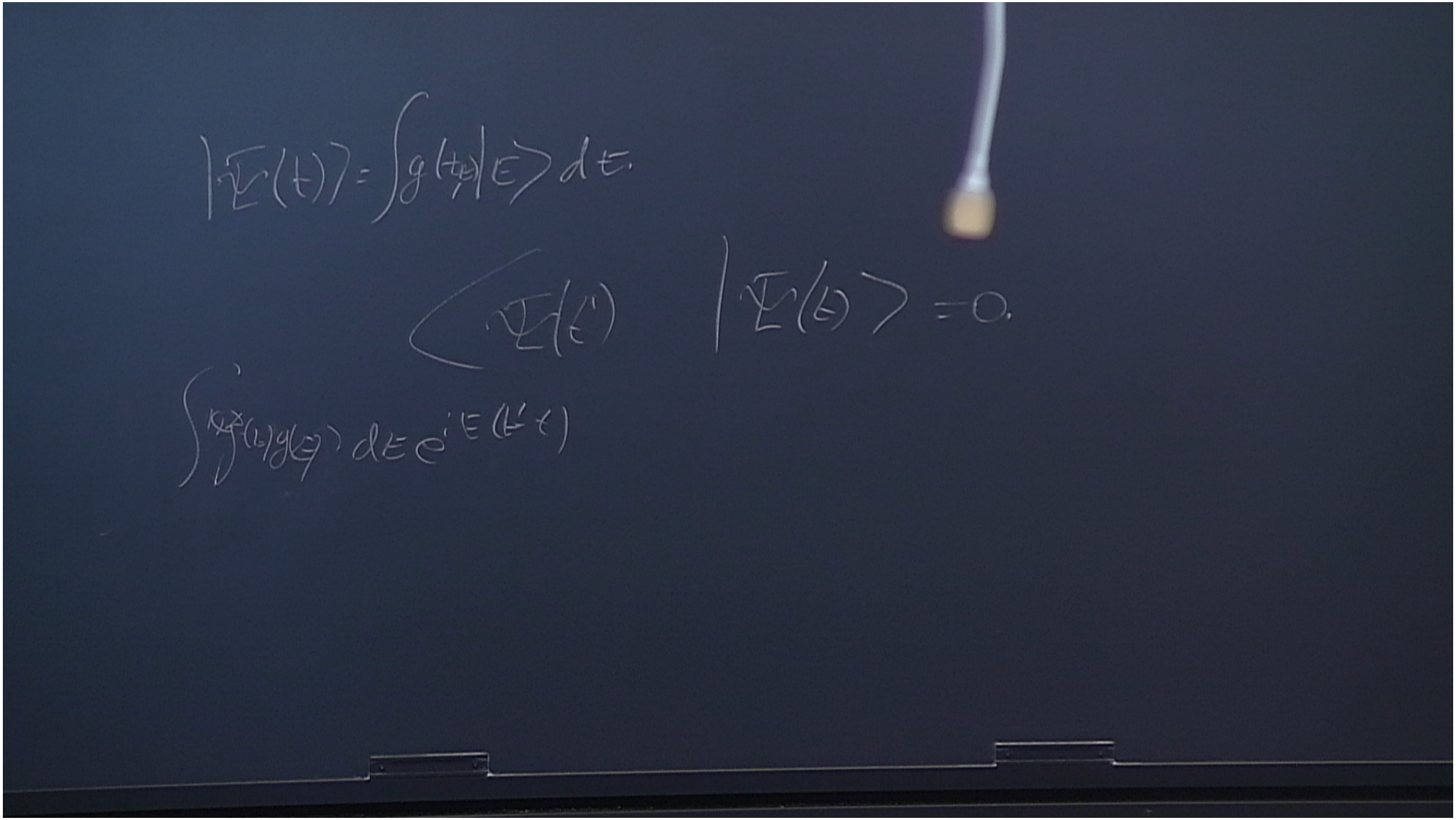
Title: TBA

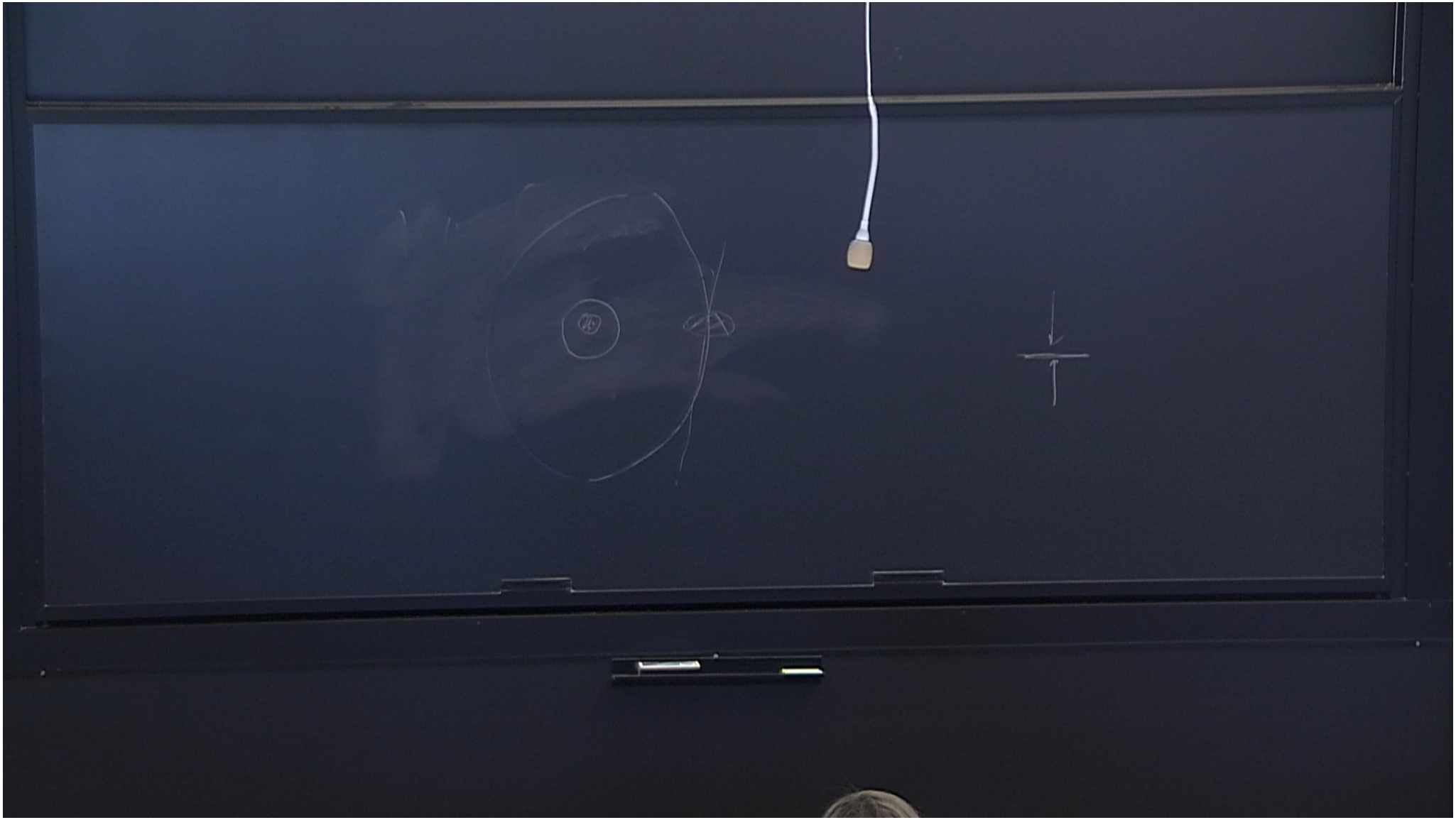
Date: Jun 09, 2016 10:00 AM

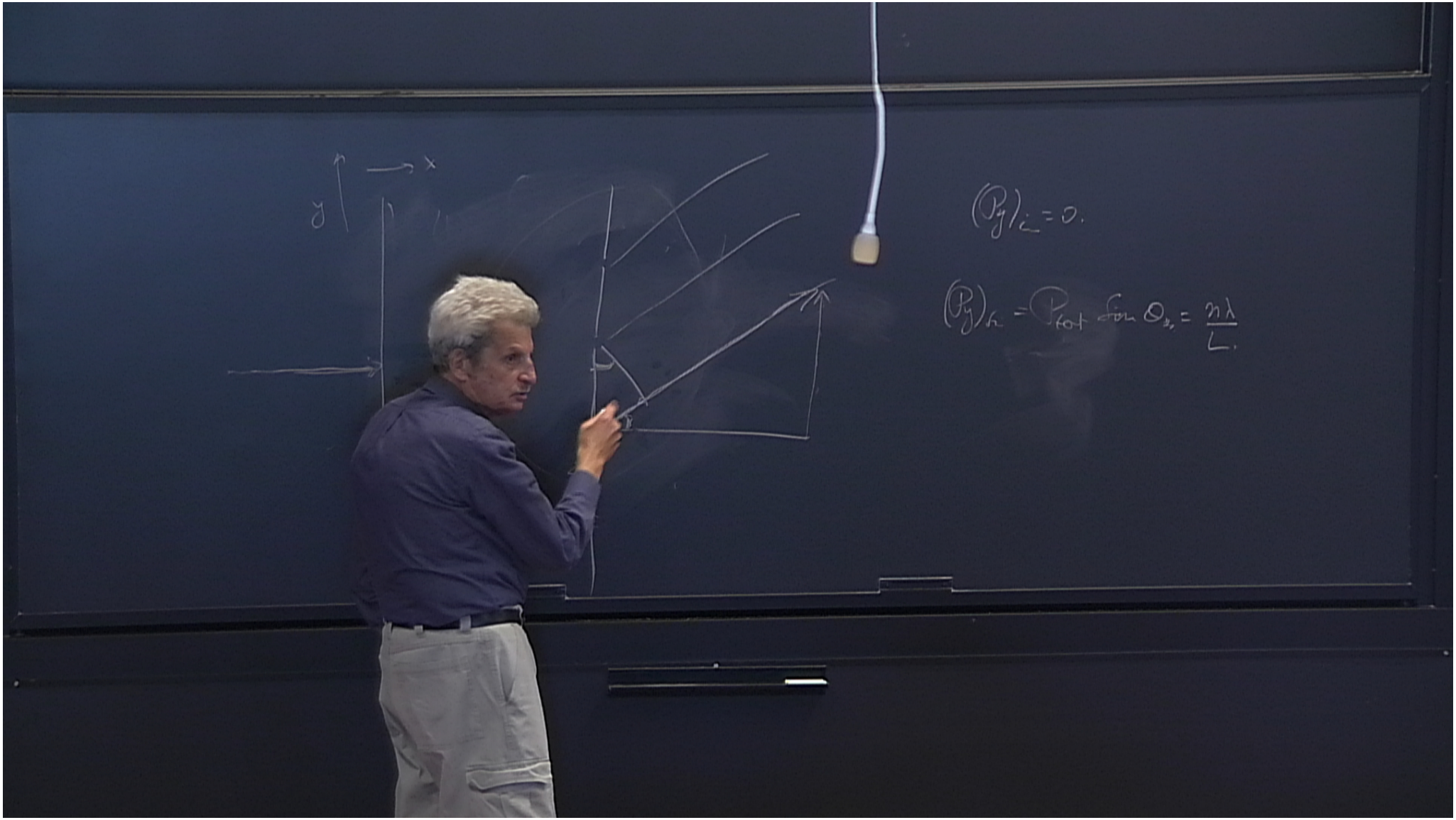
URL: http://pirsa.org/16060082

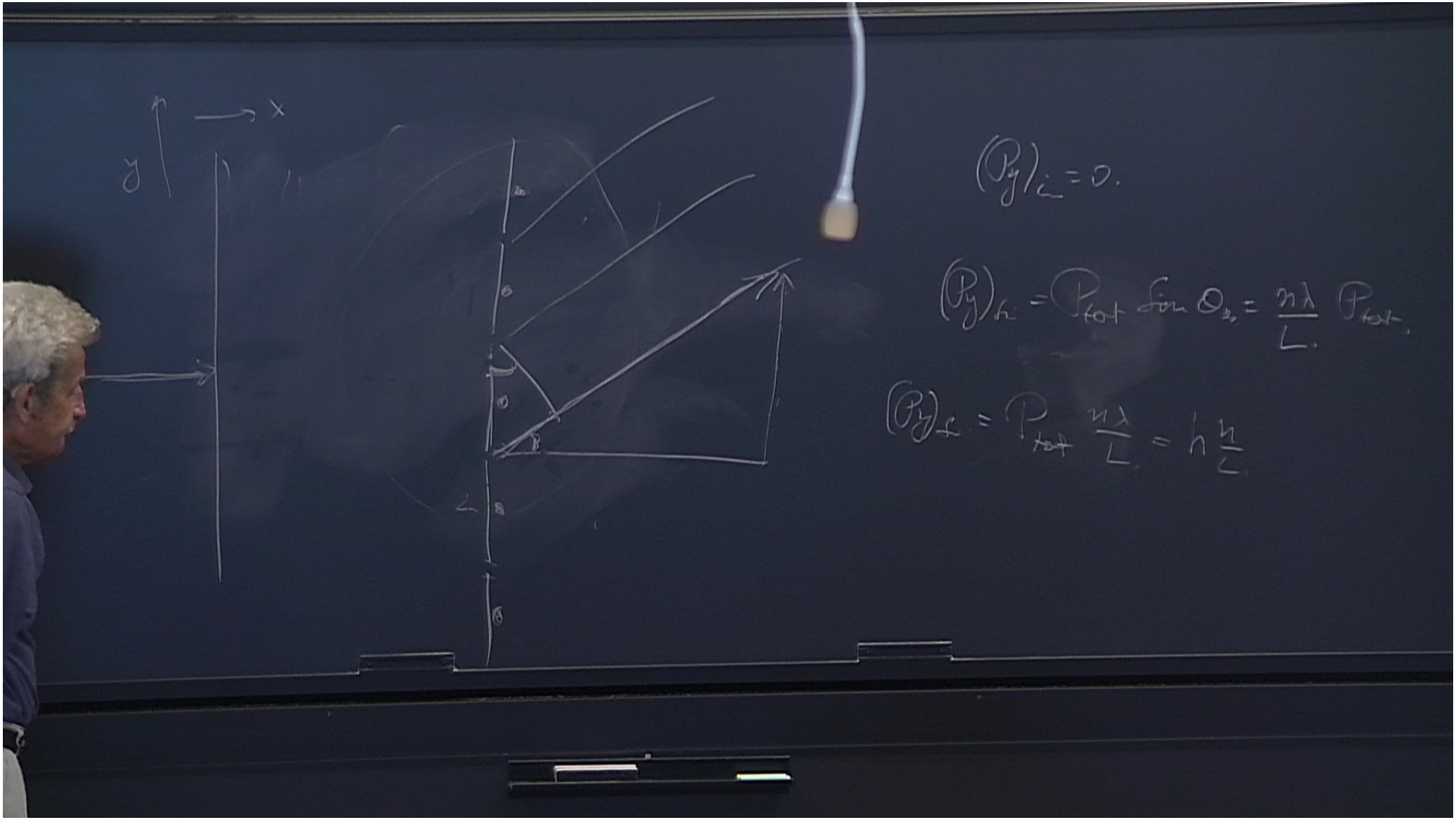
Abstract:

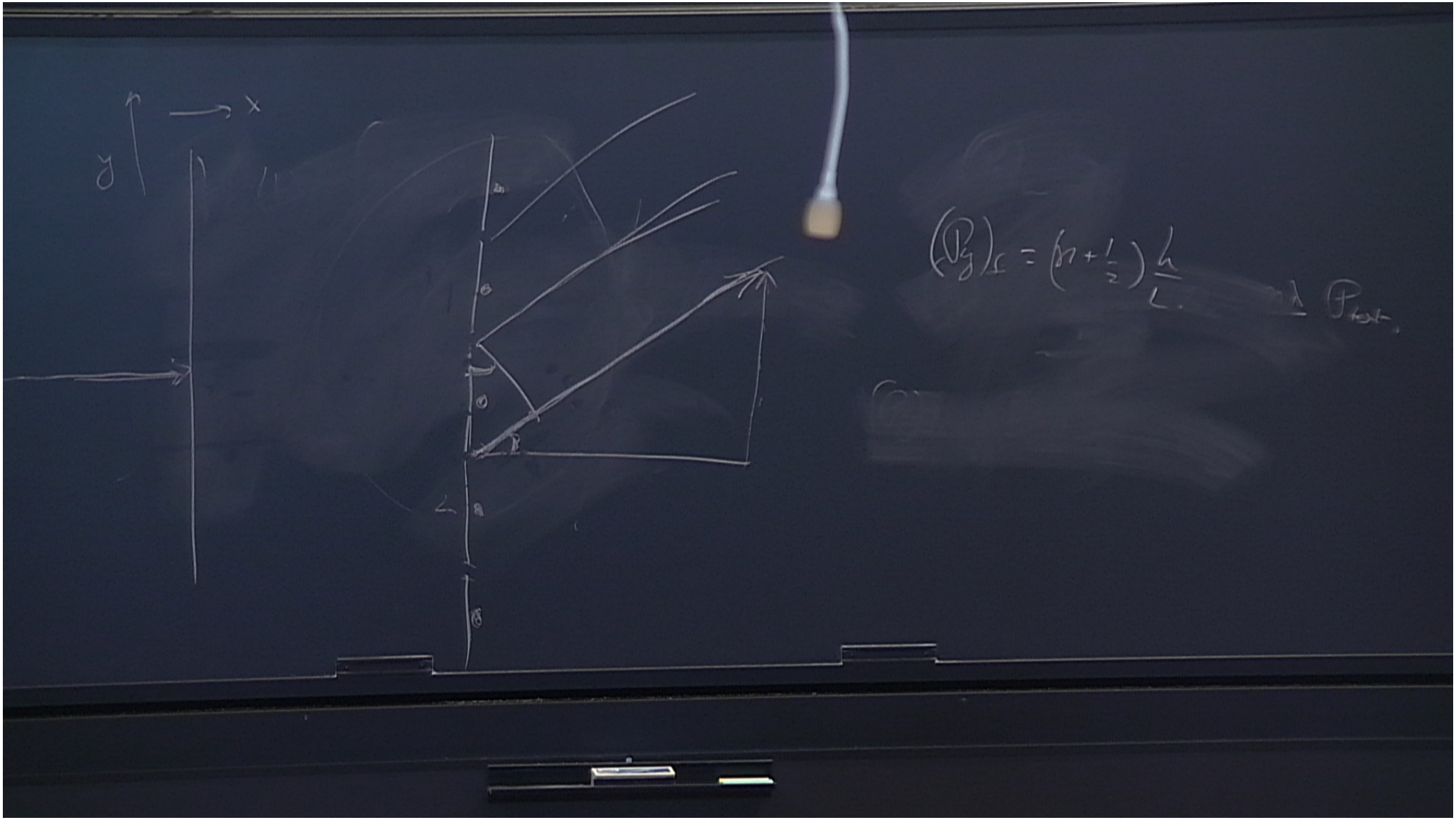

|Ψ(t)⟩ = ∫ g(t,E) |E⟩ dE
⟨Ψ(t') | Ψ(t)⟩ = 0.

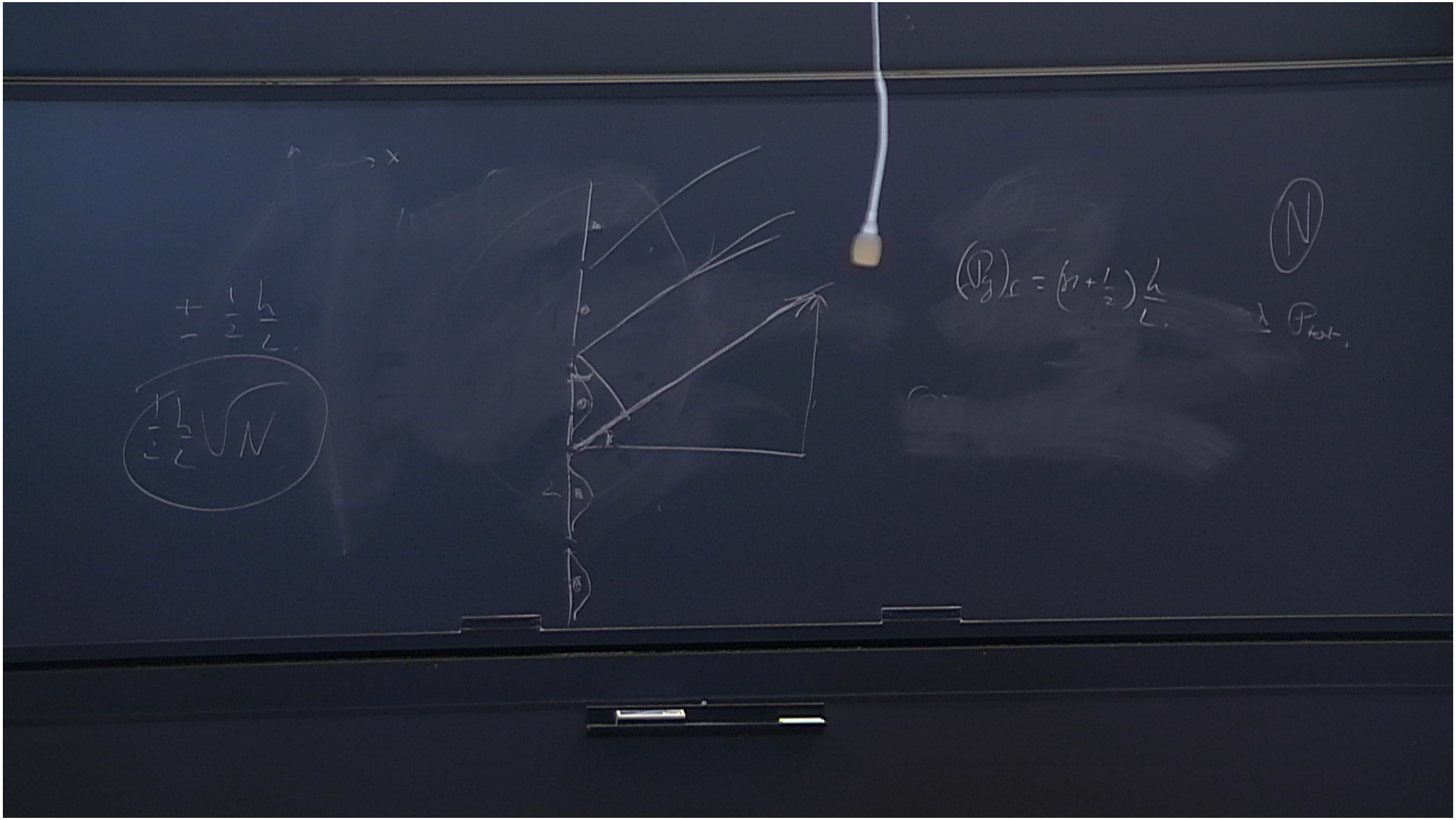

$|\Psi(t)\rangle = \int g(t,E)|E\rangle dE$
$\langle \Psi(t') \quad |\Psi(E)\rangle = 0$
$\int g^*(t,E) g(E,\cdot) dE e^{iE(t'-t)}$

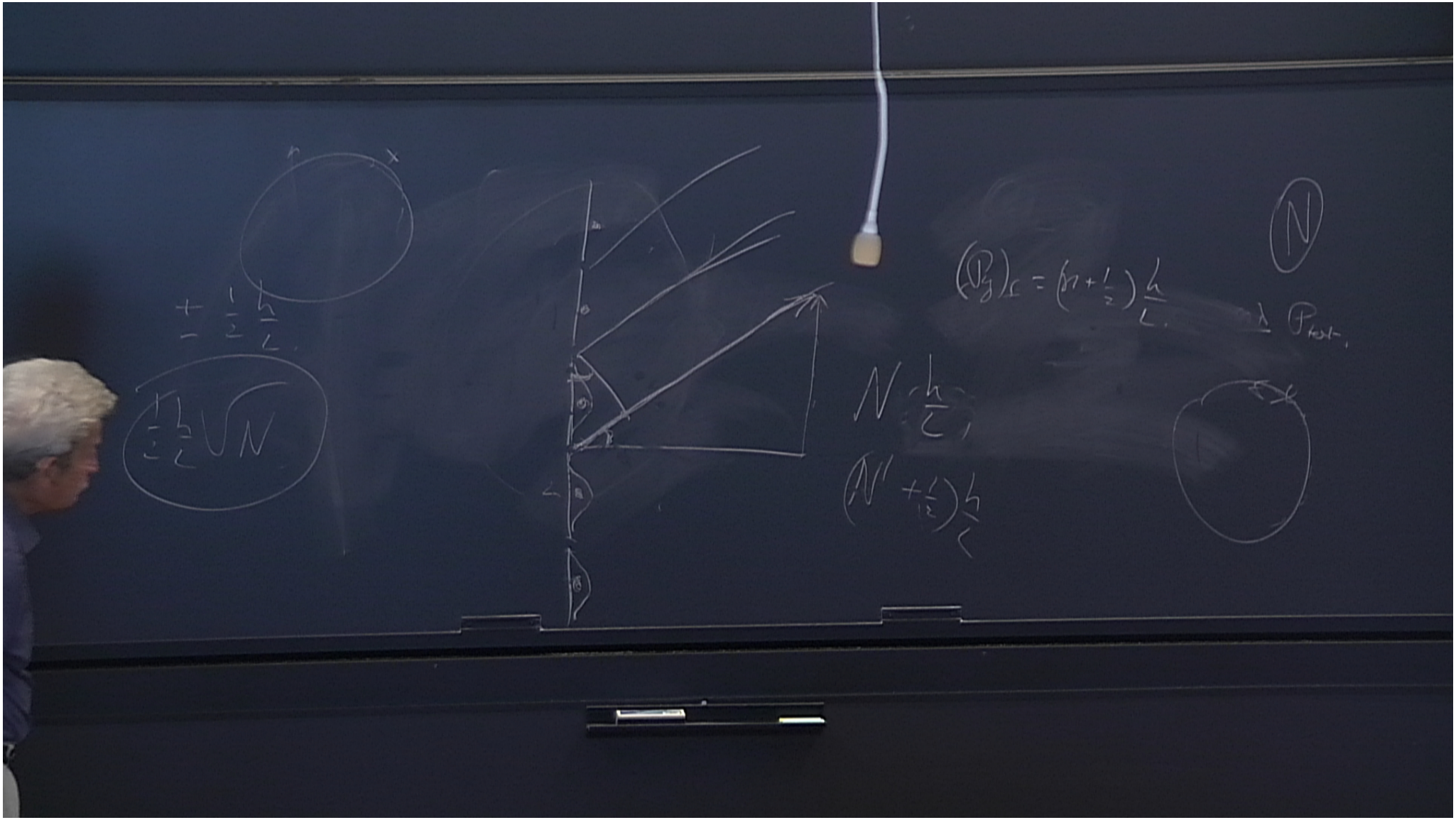


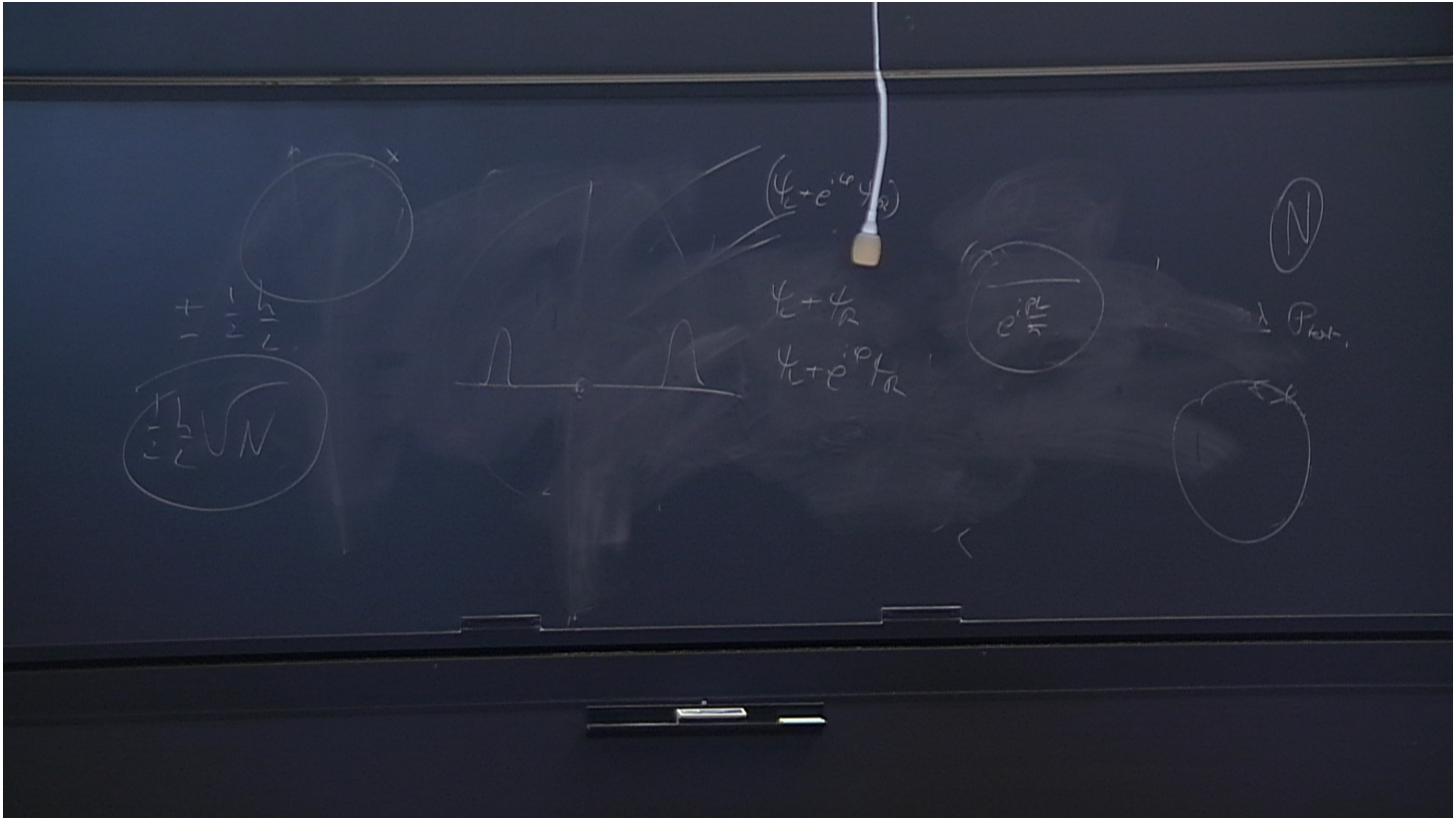

y
x
$(p_y)_i = 0.$
$(p_y)_n = p_{tot} \sin\theta_n = \frac{n\lambda}{L}$

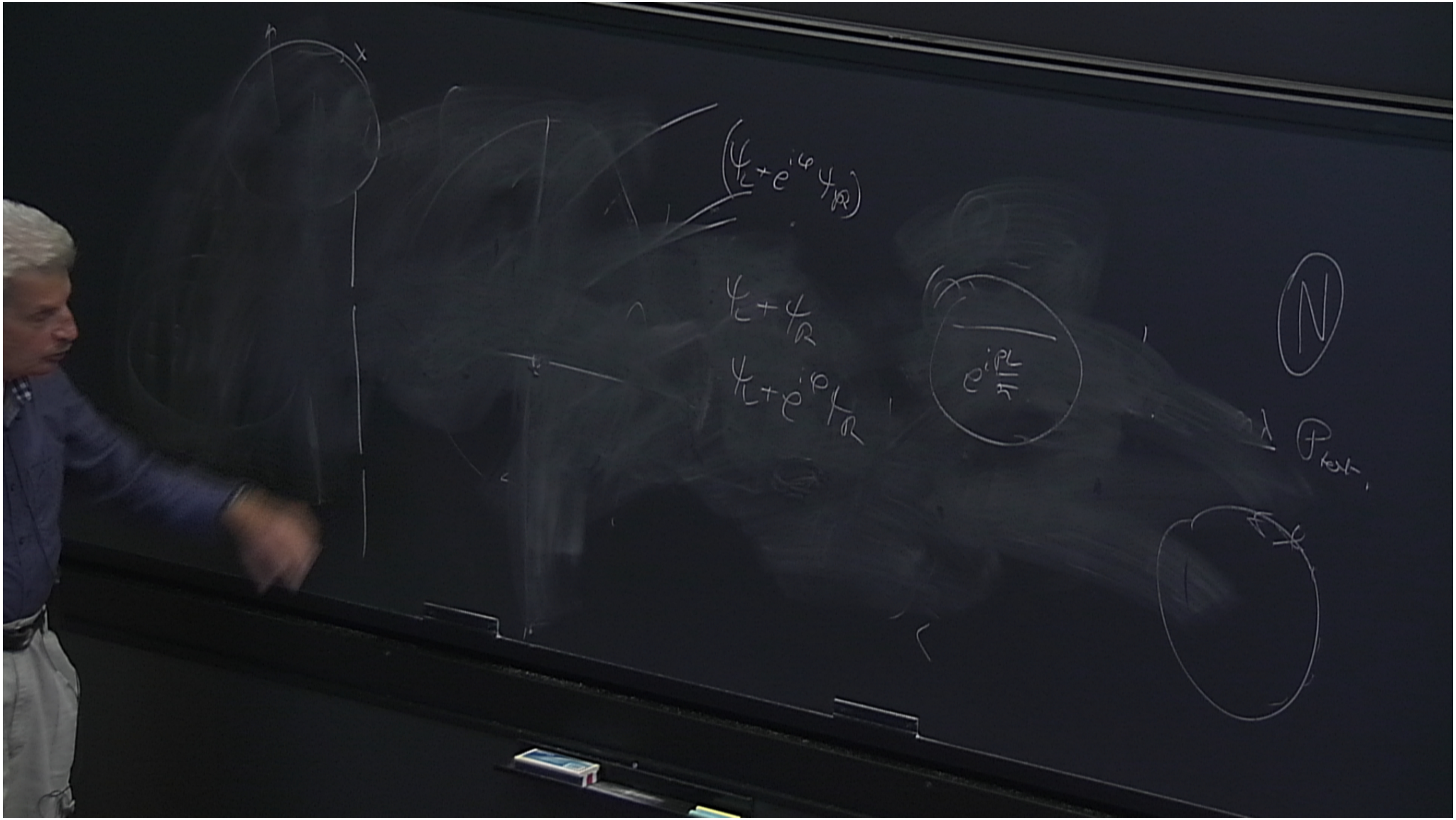

y
x
$(p_y)_i = 0$.
$(p_y)_n = p_{tot}$ for $\theta_n = \frac{n\lambda}{L}$ p_{tot}.
$(p_y)_f = p_{tot} \frac{n\lambda}{L} = n \frac{h}{L}$

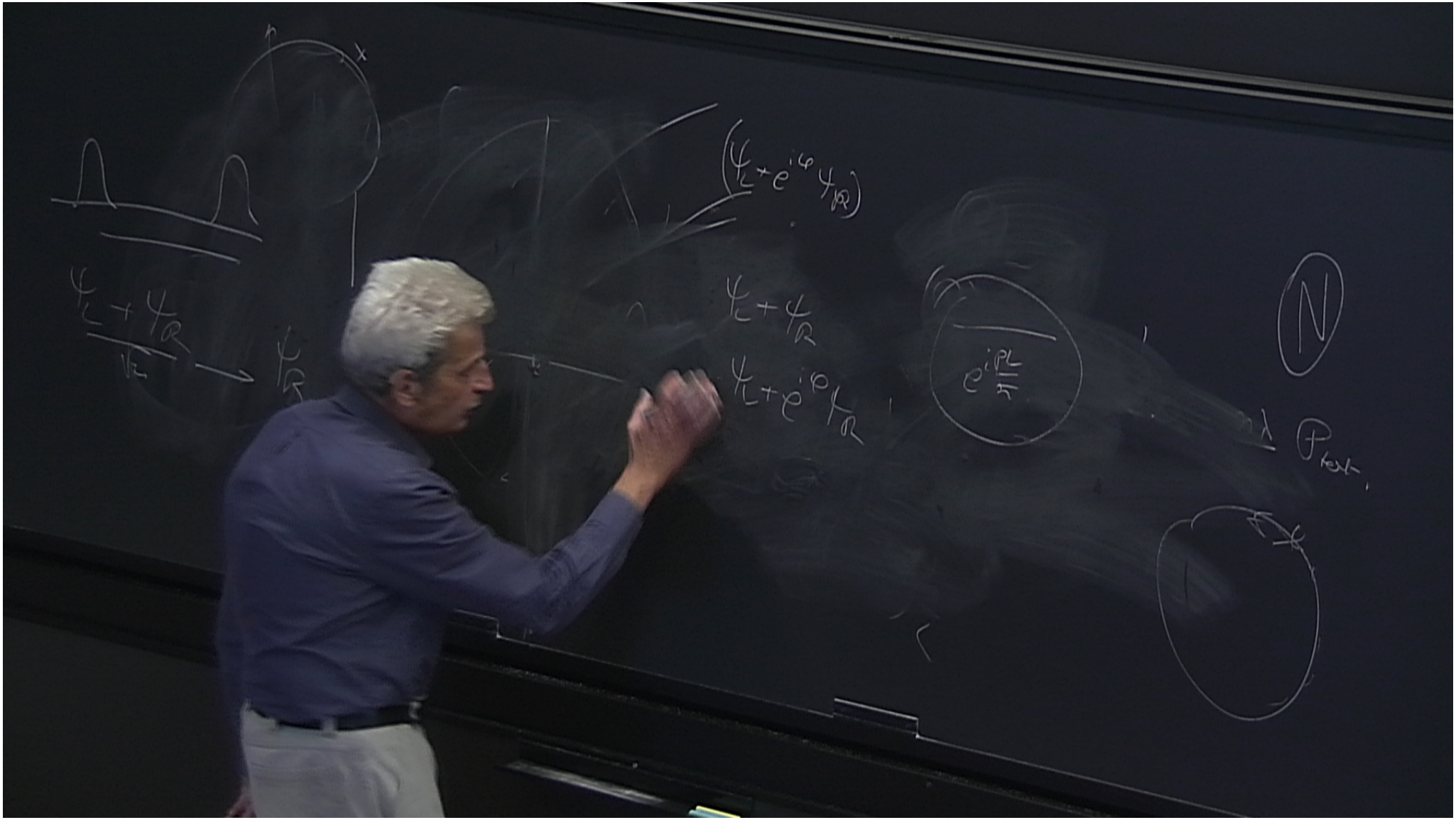

y
x
$(p_y)_i = (m+\frac{1}{2})\frac{h}{L}$
Δp_{ext}

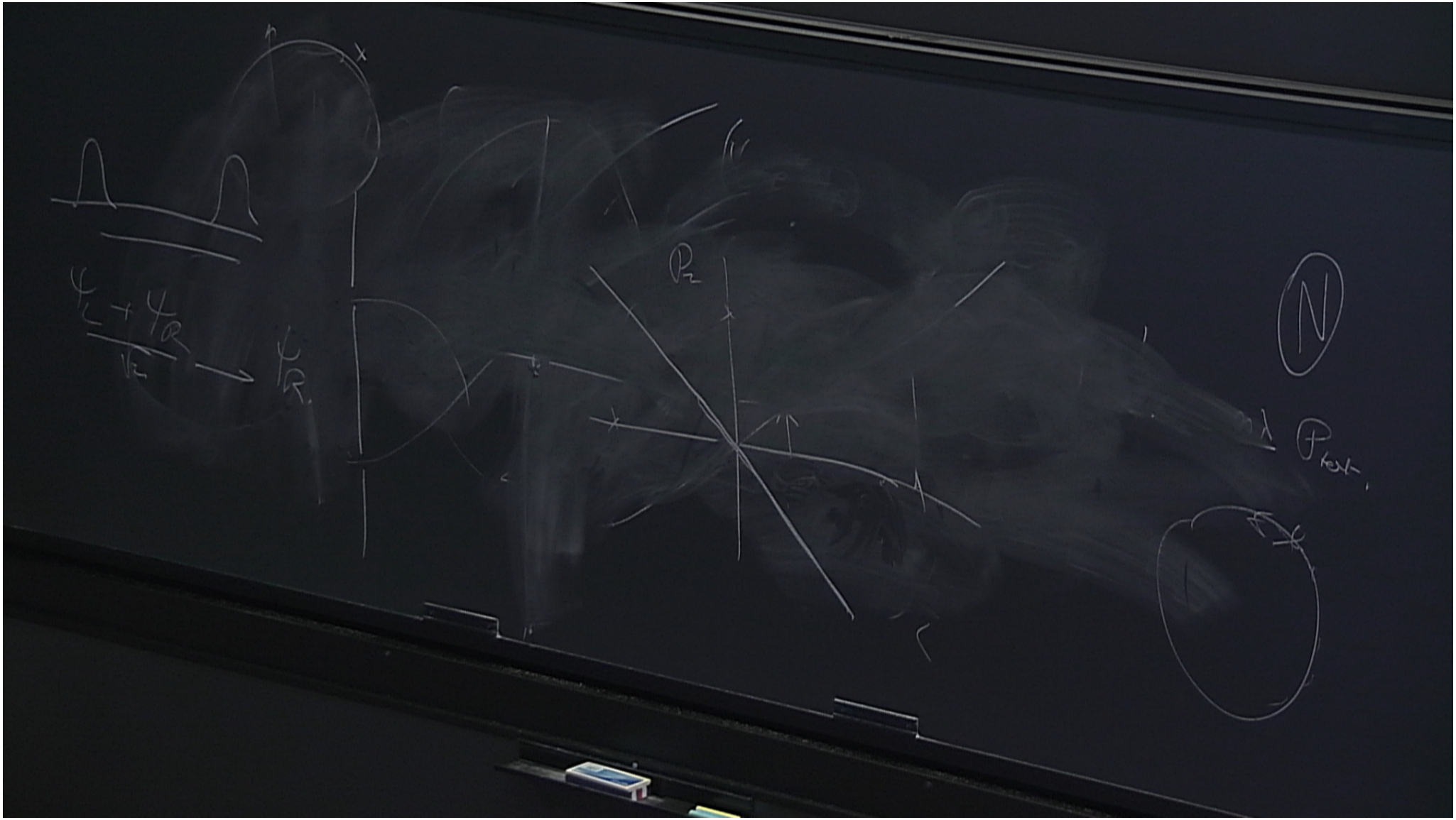

$\pm \frac{1}{2}\frac{h}{L}$
$\pm \frac{1}{2}\frac{h}{L}\sqrt{N}$
$(P_y)_L = (n+\frac{1}{2})\frac{h}{L}$
N
$\pm P_{test}$


N


$\psi_L + e^{i\varphi}\psi_R$
$\psi_L + \psi_R$
$\psi_L + e^{i\varphi}\psi_R$
$e^{i\frac{\pi}{2}}$
N


$(\psi_L + e^{i\varphi}\psi_R)$
$\psi_L + \psi_R$
$\psi_L + e^{i\varphi}\psi_R$
$e^{i\frac{\varphi_L}{\pi}}$
N


$\psi_L + e^{i\varphi}\psi_R$
$\psi_L + \psi_R$
$\psi_L + e^{i\varphi}\psi_R$
$\frac{\psi_L + \psi_R}{\sqrt{2}}$
ψ_R
$e^{i\frac{\varphi_L}{2}}$
N
λ Proton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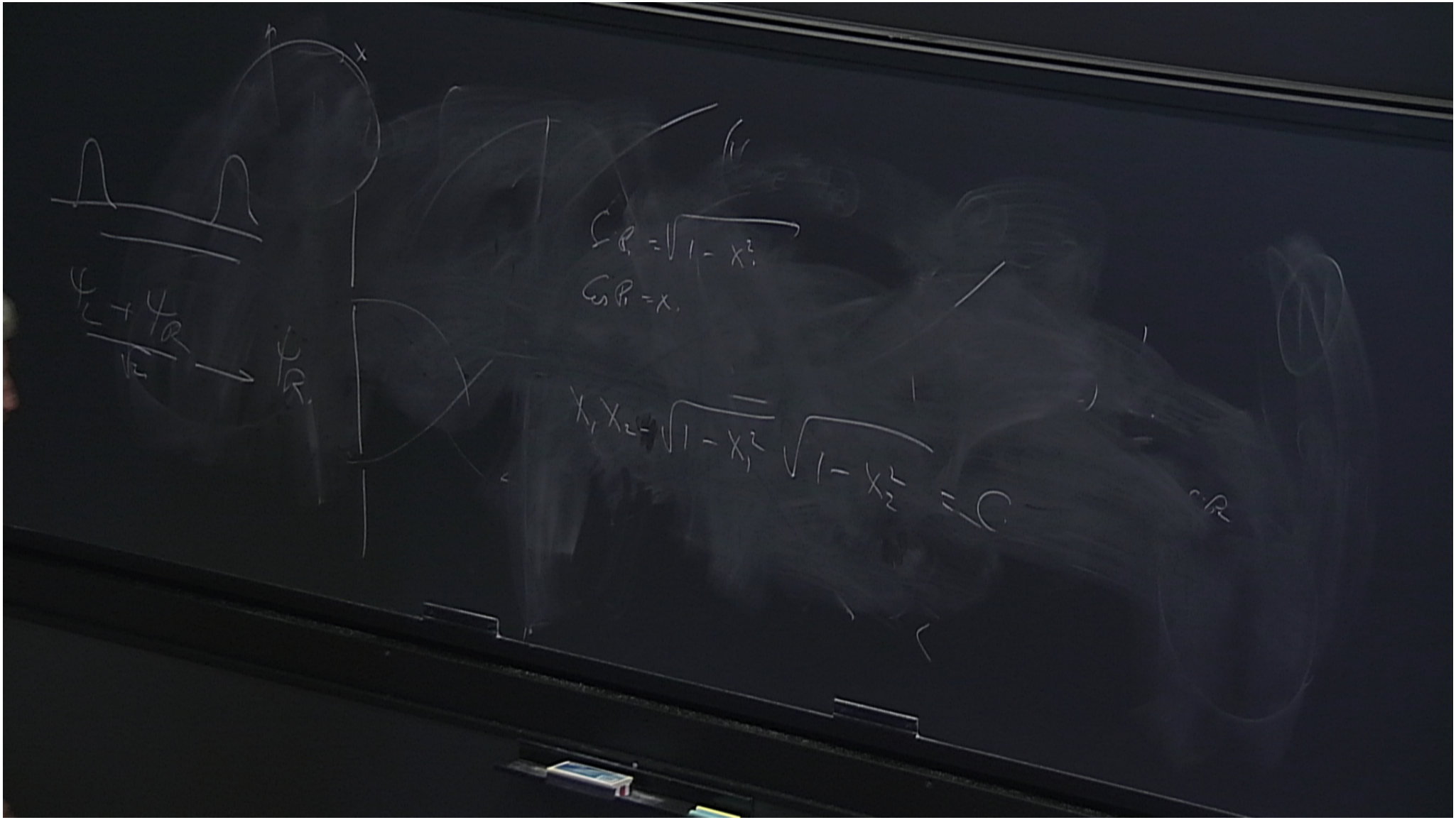
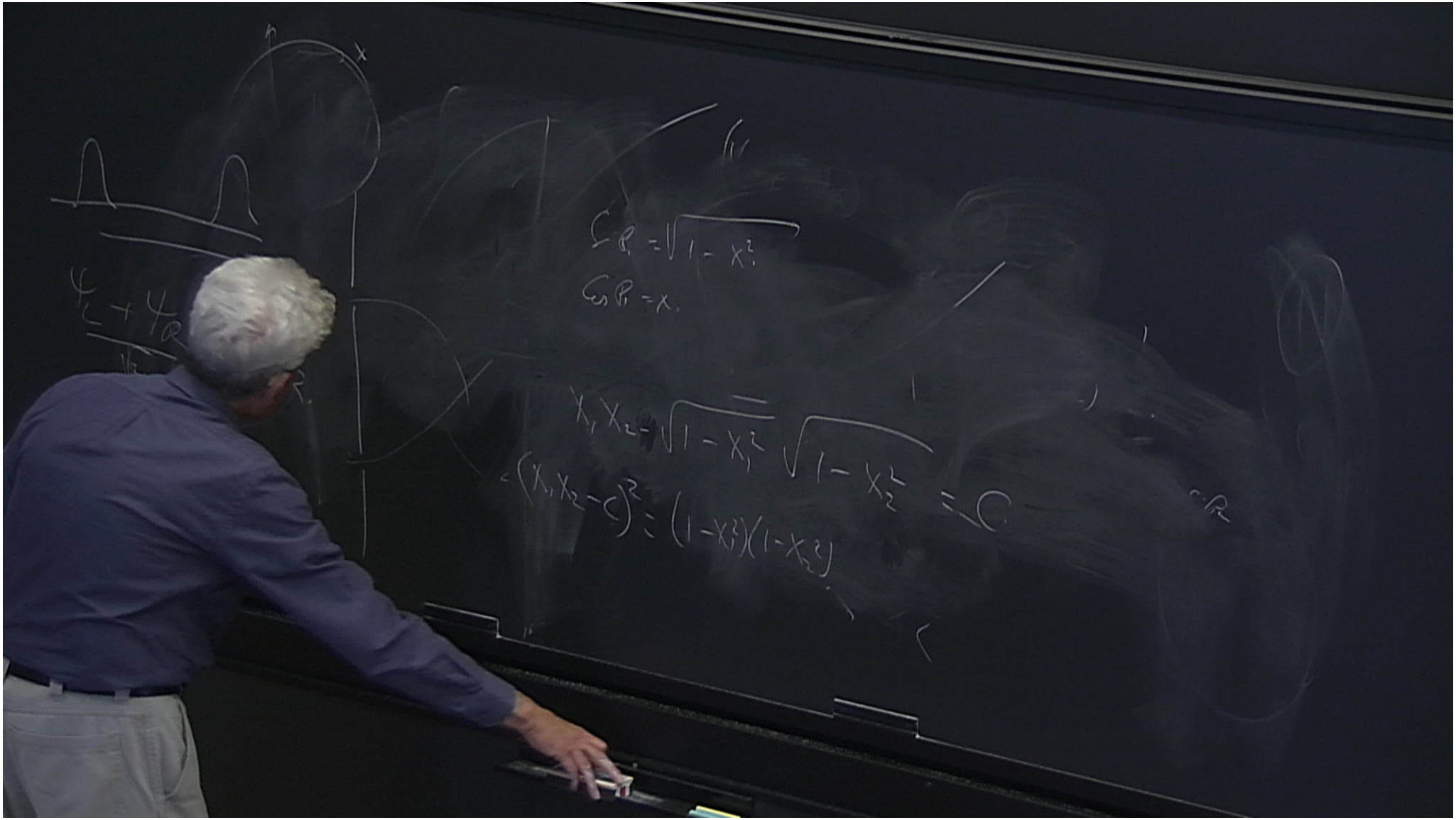
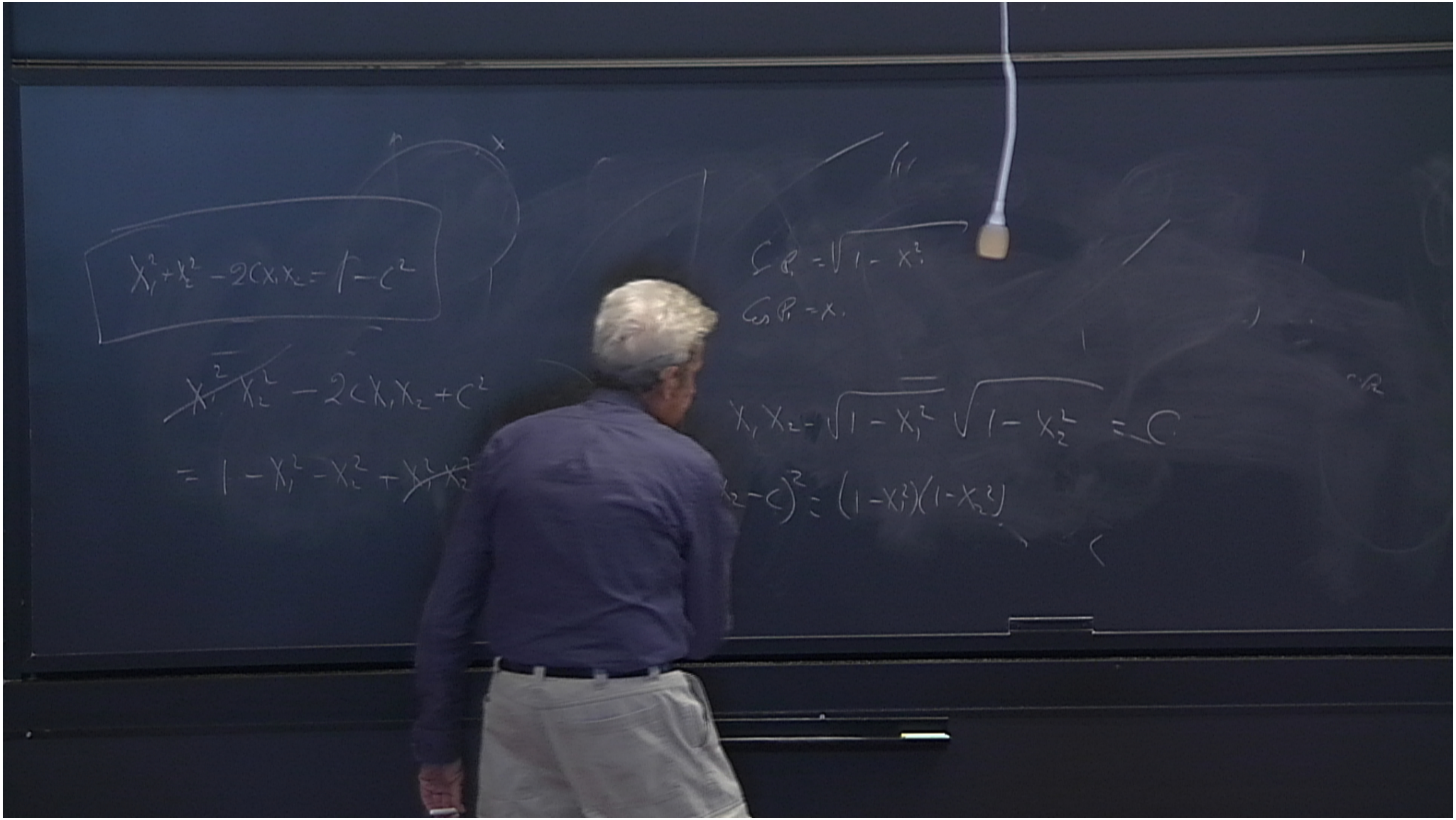
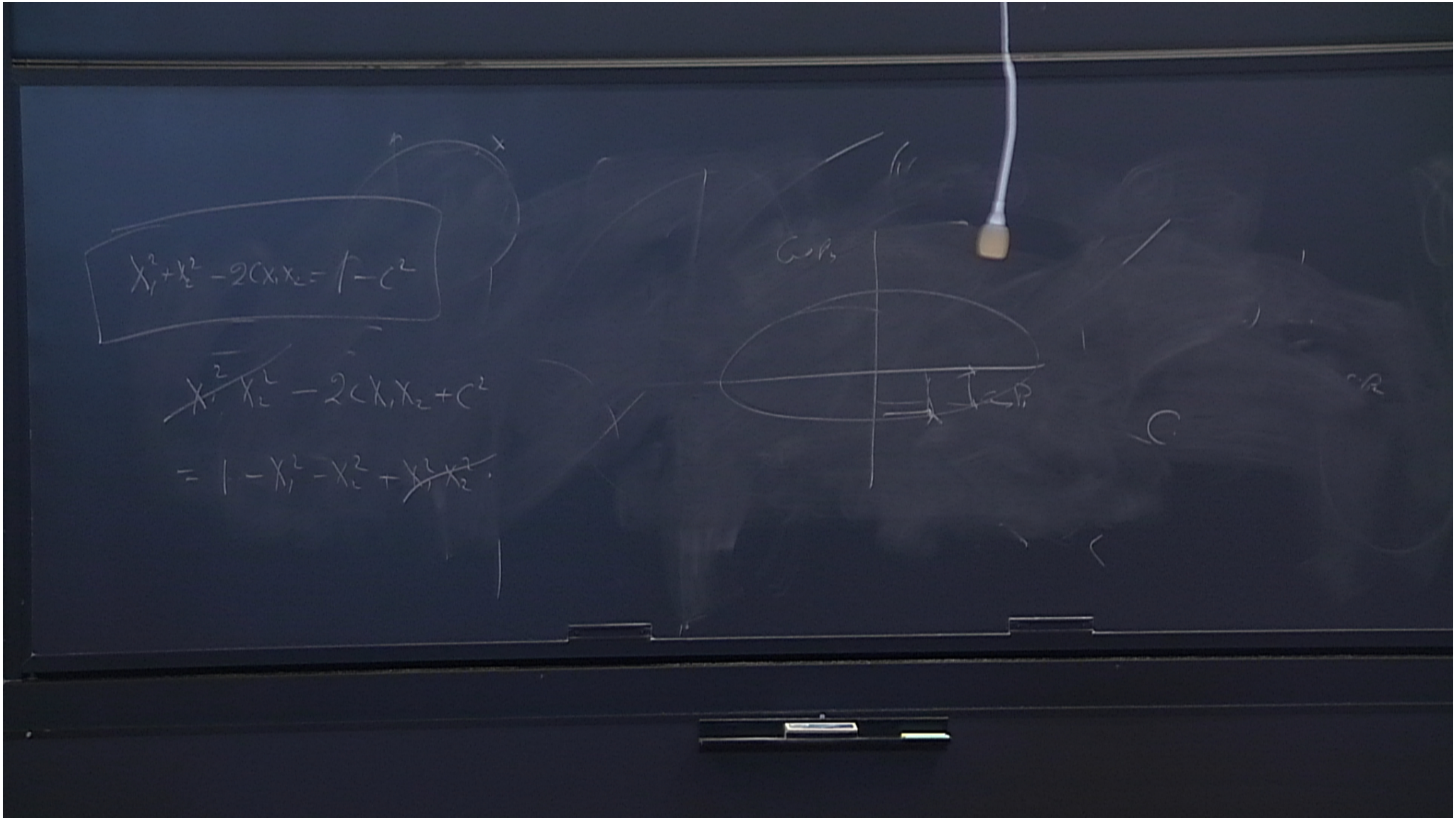
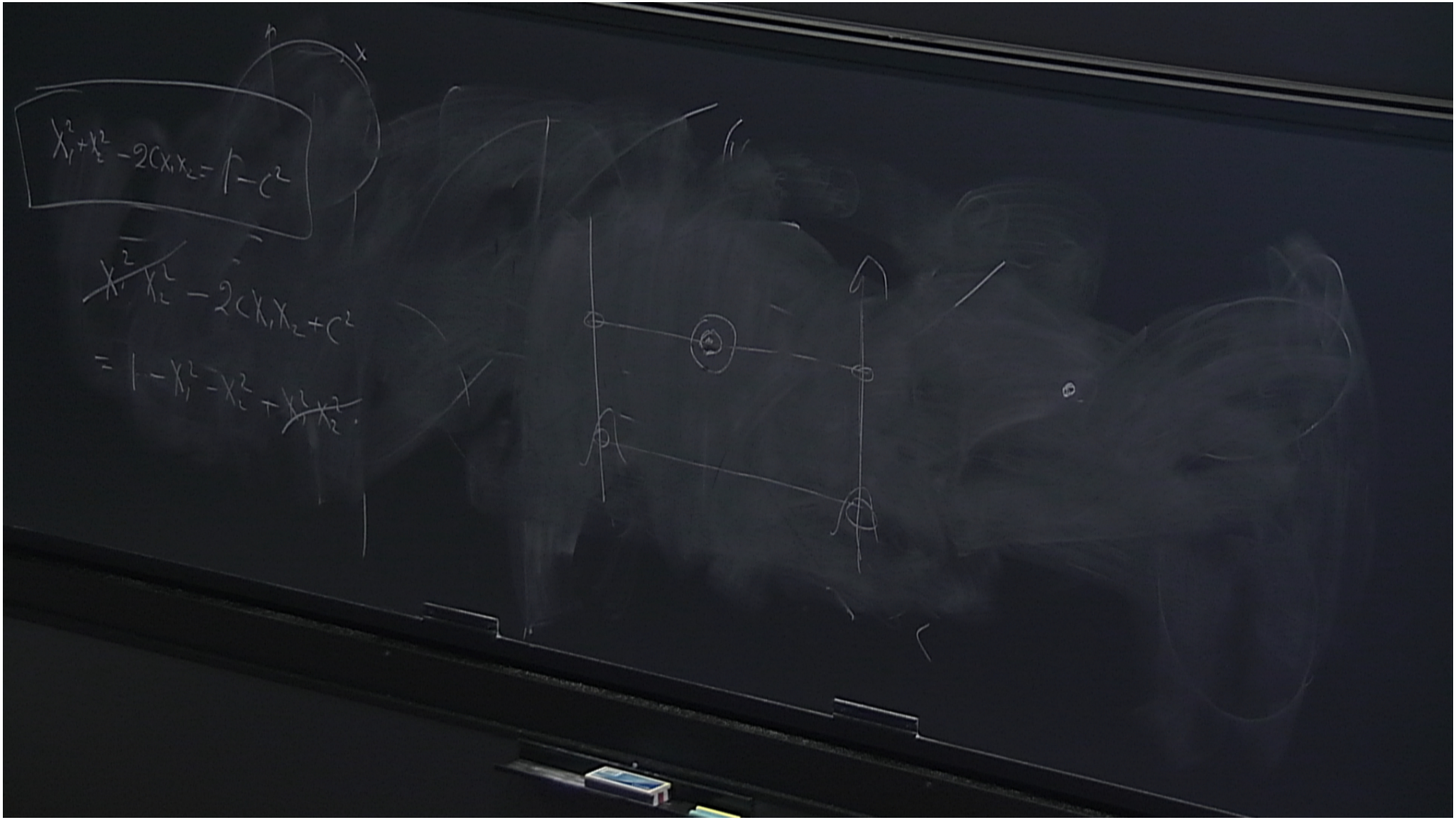
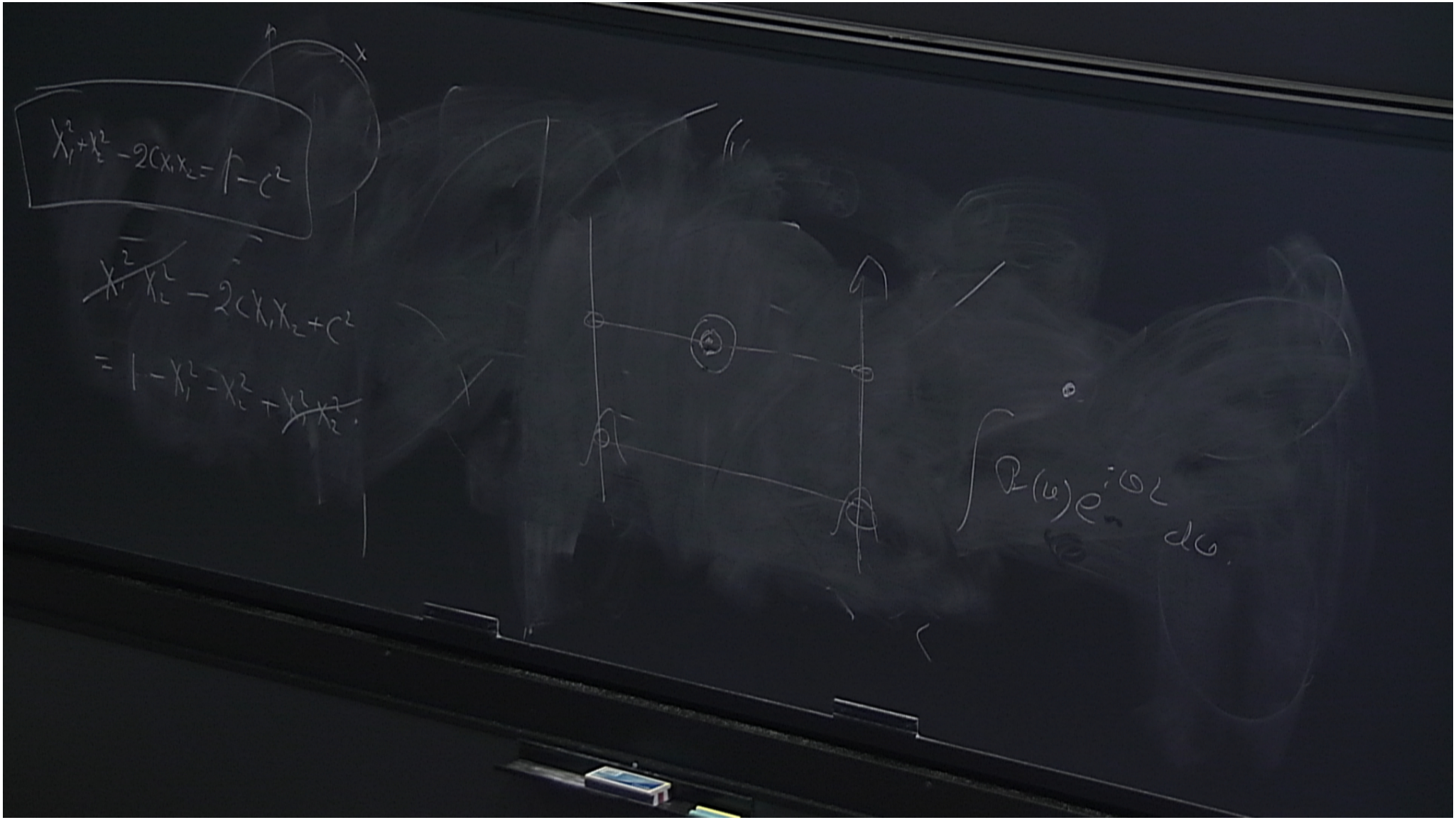

$\sin\theta_1 = \sqrt{1 - x_1^2}$
$\cos\theta_1 = x_1$
$x_1 x_2 - \sqrt{1 - x_1^2}\sqrt{1 - x_2^2} = C$

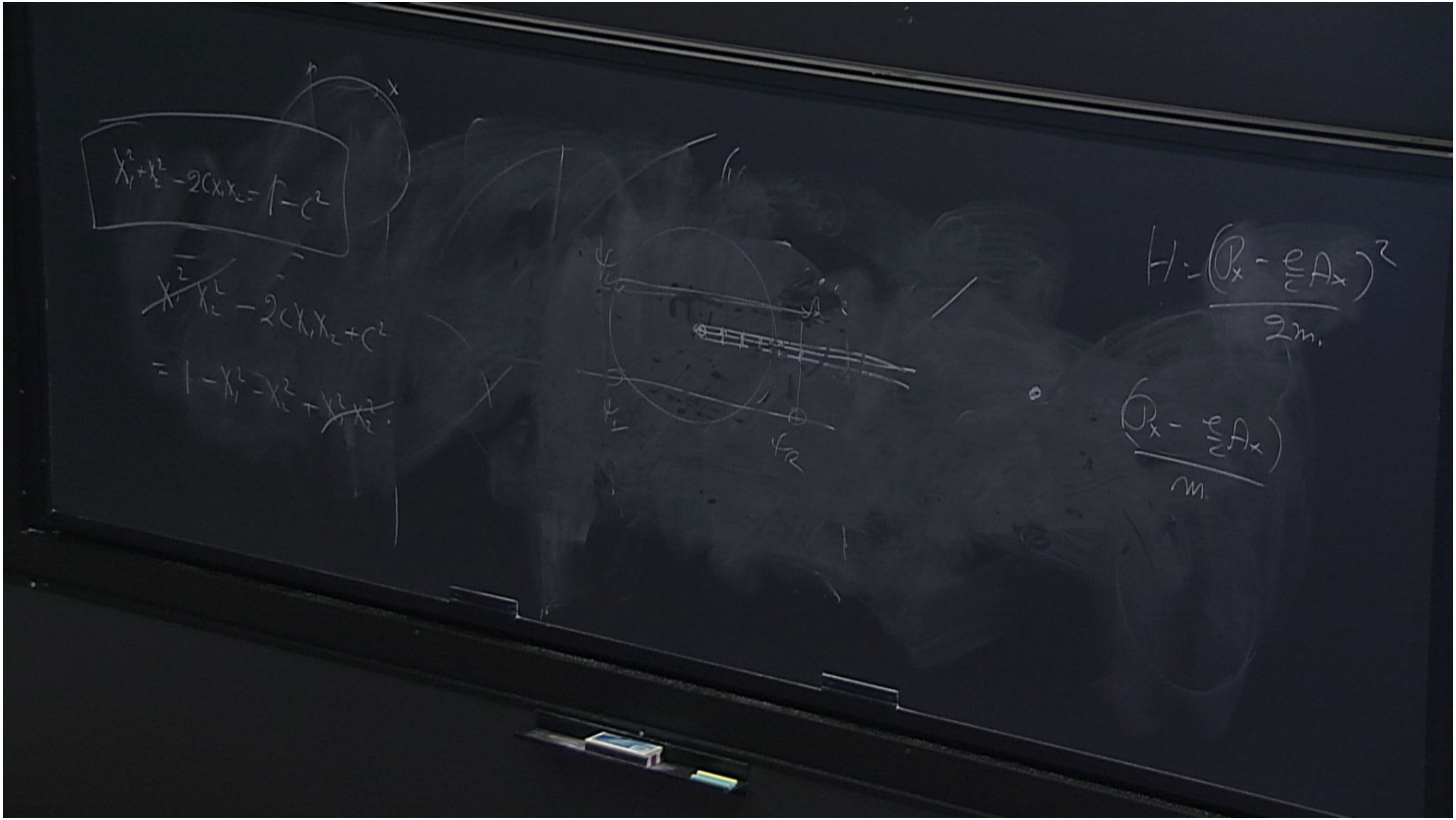

$\sin\theta_1 = \sqrt{1 - x_1^2}$
$\cos\theta_1 = x_1$
$x_1 x_2 + \sqrt{1 - x_1^2}\sqrt{1 - x_2^2} = C$
$(x_1 x_2 - C)^2 = (1 - x_1^2)(1 - x_2^2)$

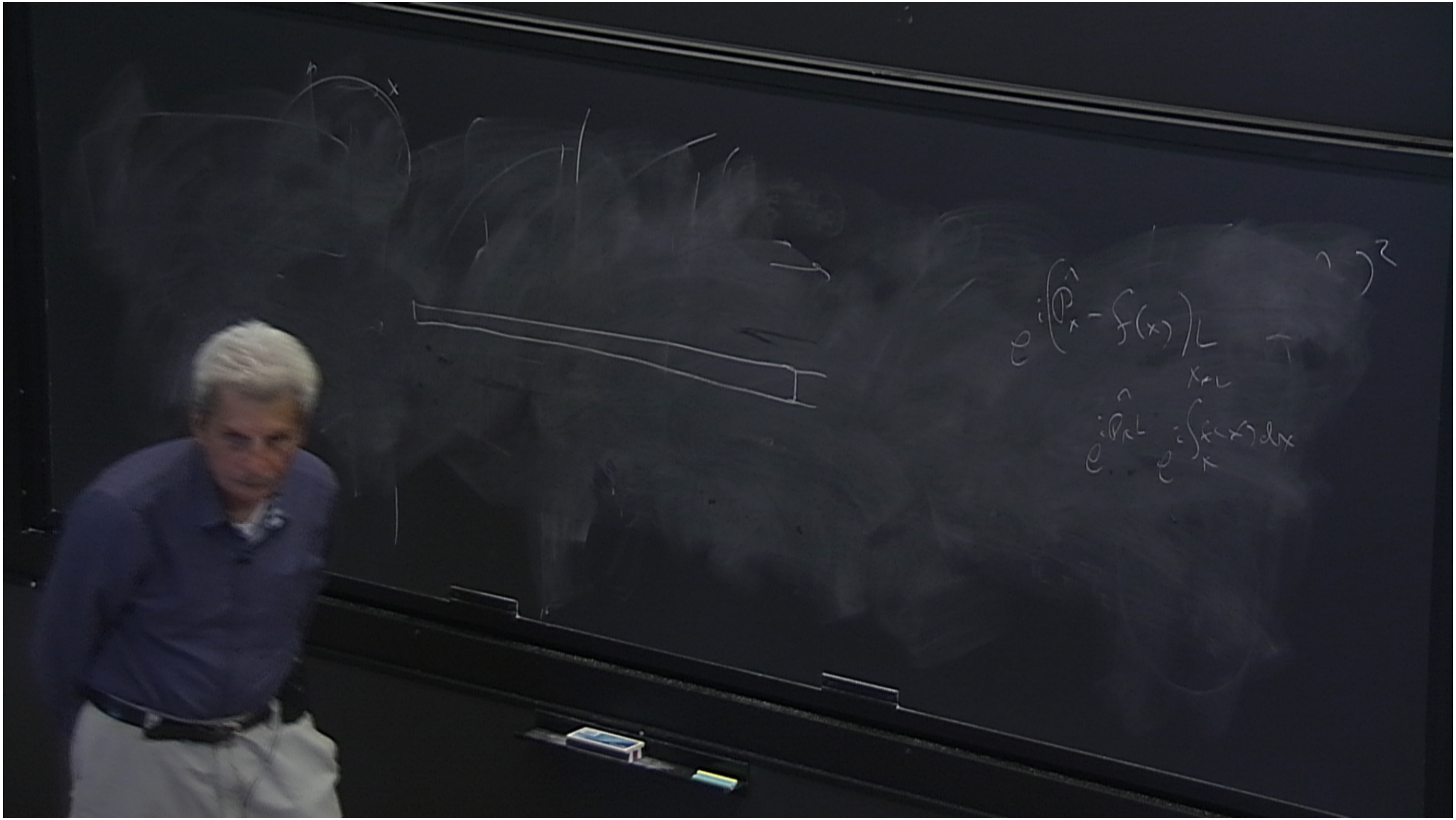

$X_1^2 + X_2^2 - 2CX_1X_2 = 1 - C^2$
$X_1^2 X_2^2 - 2CX_1X_2 + C^2$
$= 1 - X_1^2 - X_2^2 + X_1^2 X_2^2$
$\cos\theta_1 = \sqrt{1 - X_1^2}$
$\cos\theta_1 = X_1$
$X_1 X_2 - \sqrt{1 - X_1^2}\sqrt{1 - X_2^2} = C$
$(1 - X_1^2)(1 - X_2^2)$

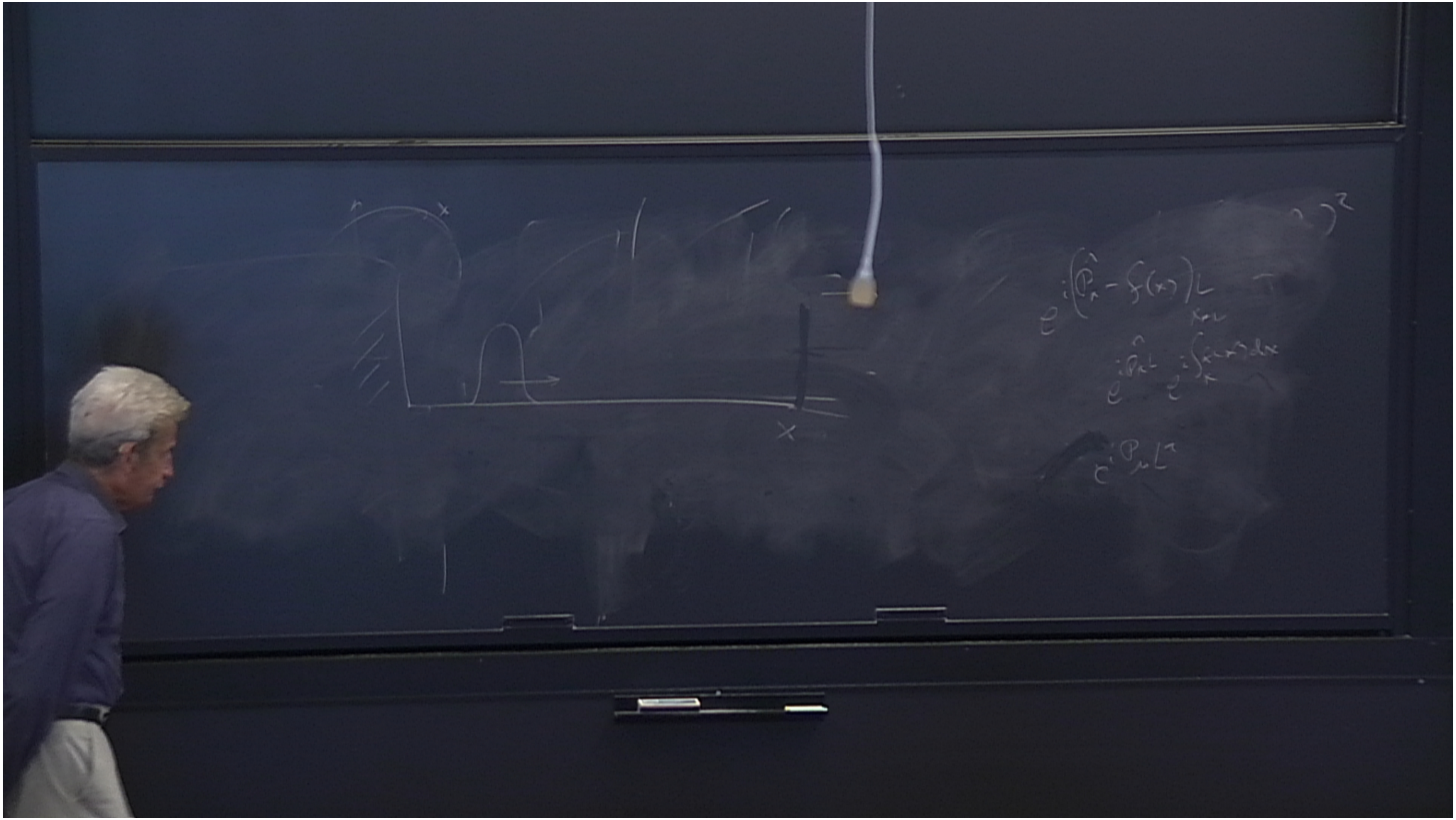

$X_1^2 + X_2^2 - 2cX_1X_2 = 1 - c^2$
$X_1^2 X_2^2 - 2cX_1X_2 + c^2$
$= 1 - X_1^2 - X_2^2 + X_1^2 X_2^2$

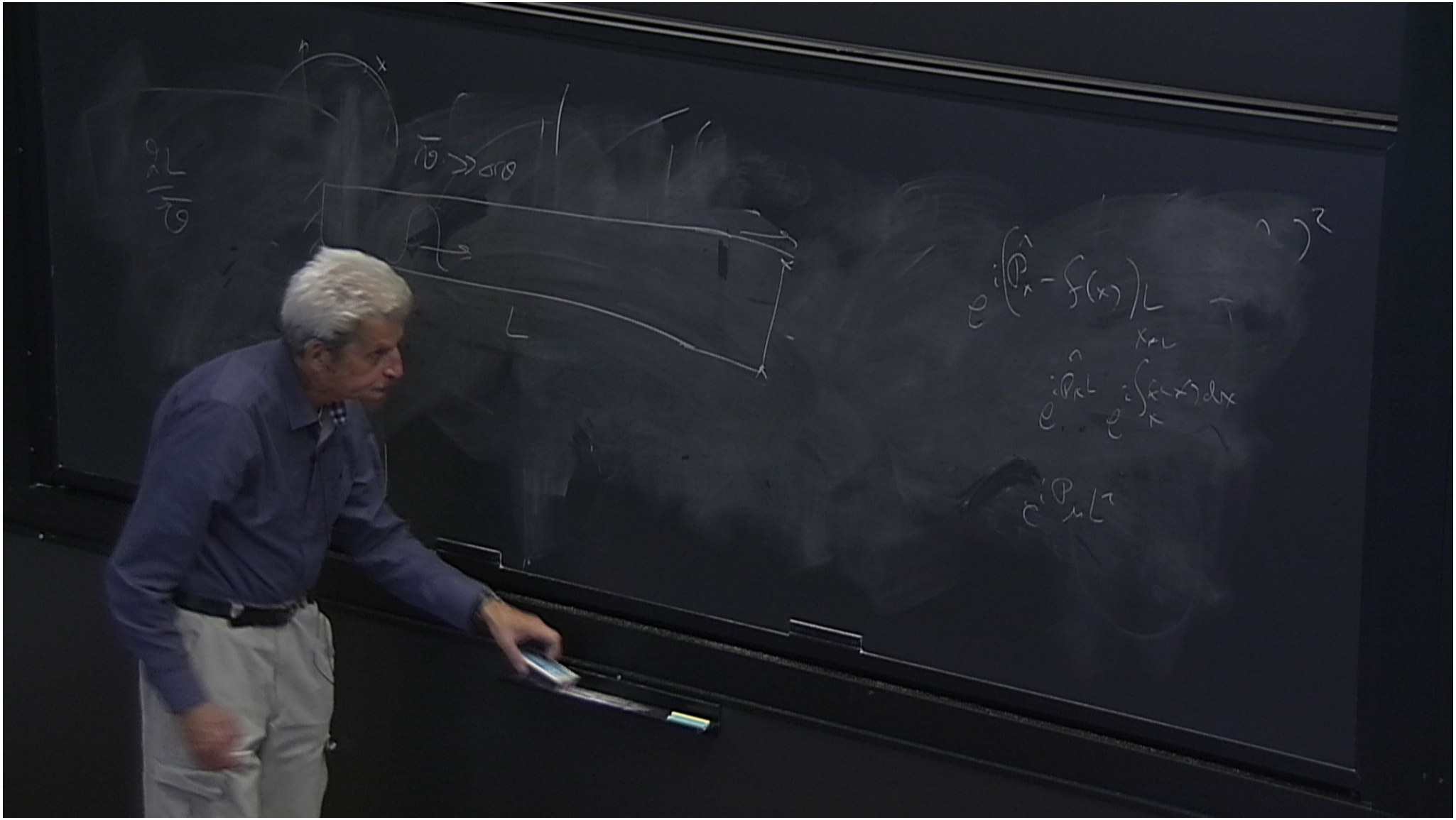

$x_1^2 + x_2^2 - 2cx_1x_2 = 1 - c^2$
$x_1^2 x_2^2 - 2cx_1x_2 + c^2$
$= 1 - x_1^2 - x_2^2 + x_1^2 x_2^2$

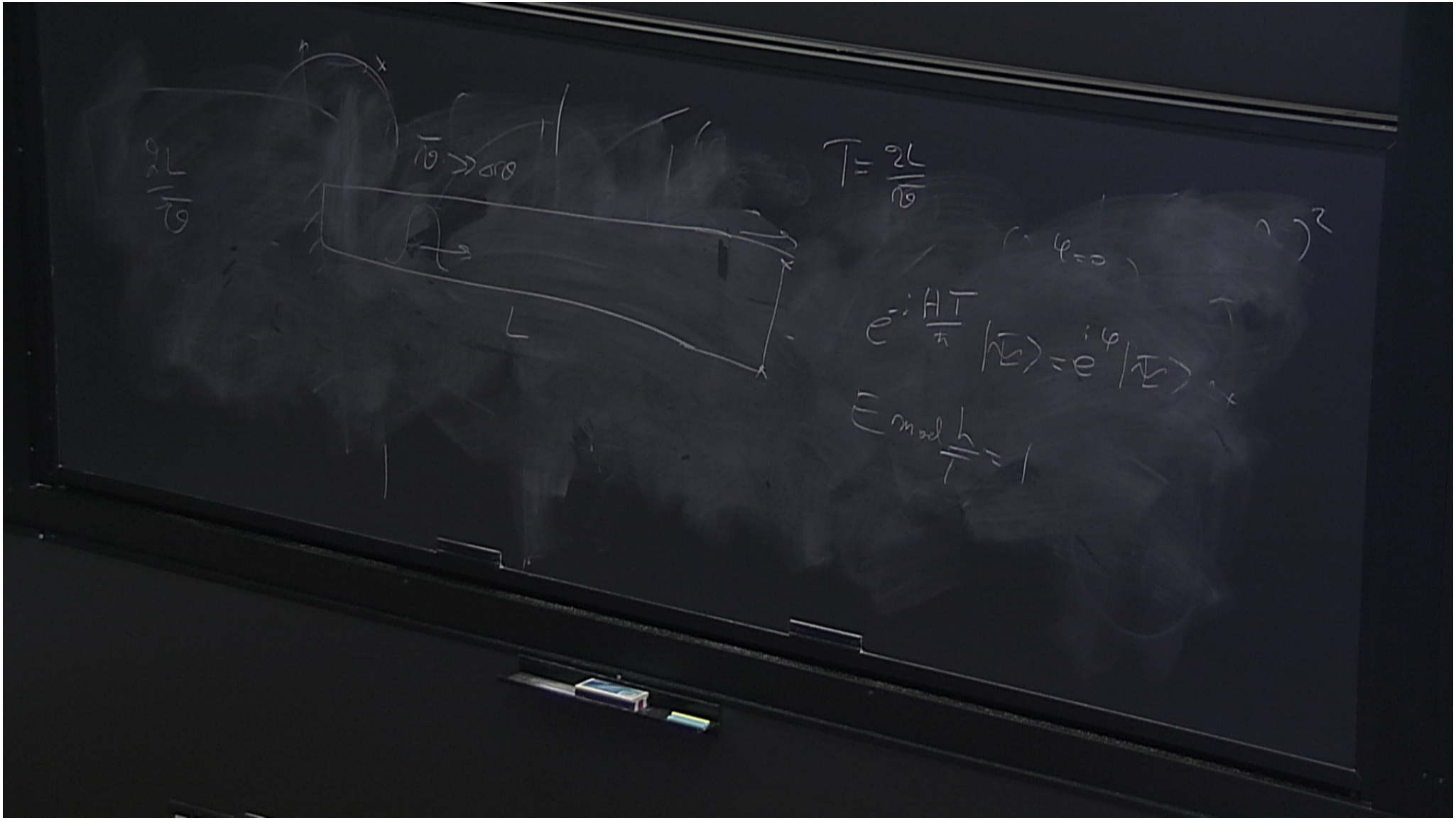

$x_1^2 + x_2^2 - 2cx_1x_2 = 1 - c^2$
$x_1^2 x_2^2 - 2cx_1x_2 + c^2$
$= 1 - x_1^2 - x_2^2 + x_1^2 x_2^2$
$\int R(\theta) e^{i\theta l} d\theta$

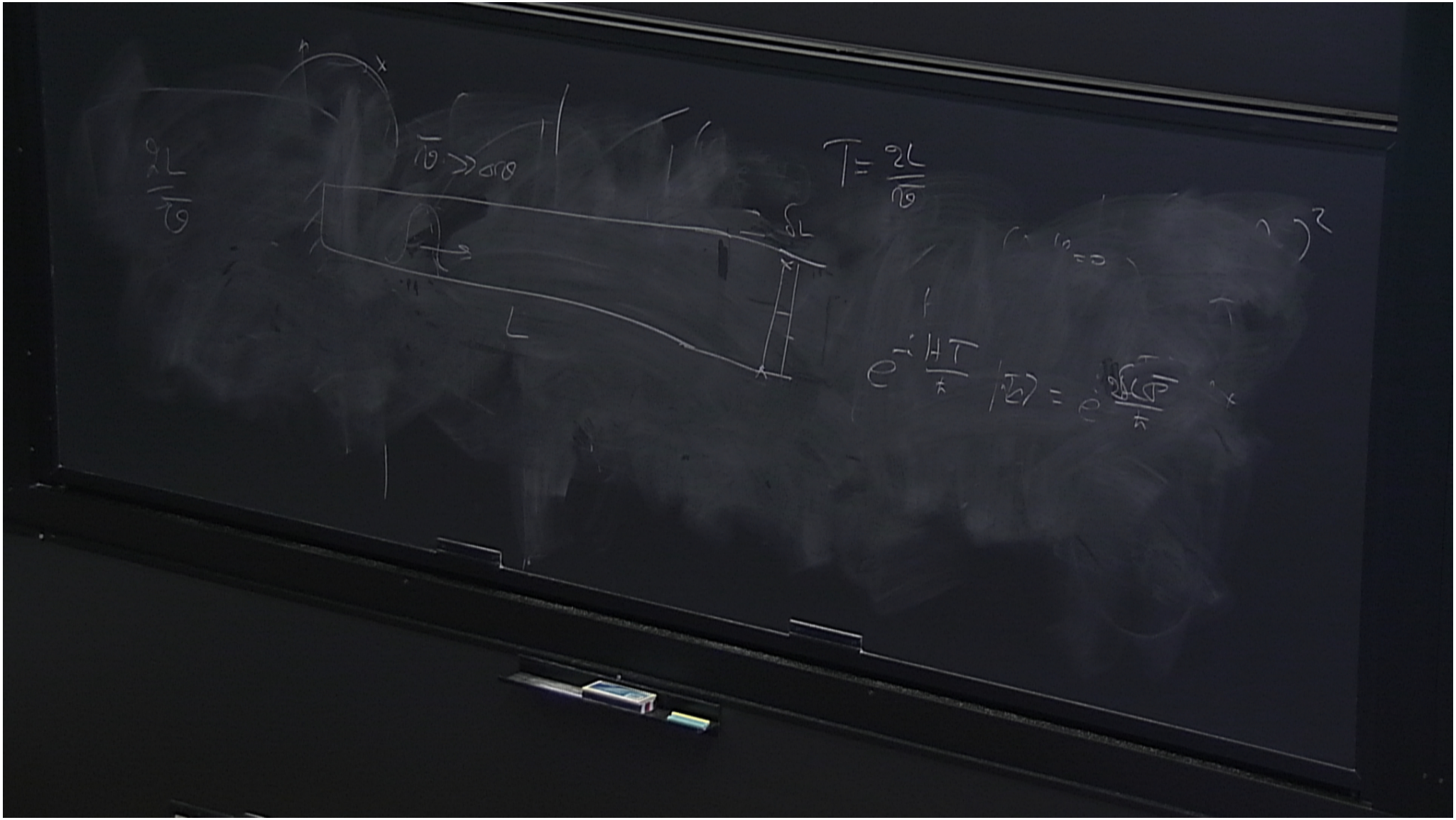

$X_1^2 + X_2^2 - 2CX_1X_2 = 1 - C^2$
$X_1^2 X_2^2 - 2CX_1X_2 + C^2$
$= 1 - X_1^2 - X_2^2 + X_1^2 X_2^2$
$H = \frac{(P_x - \frac{e}{c}A_x)^2}{2m}$
$\frac{(P_x - \frac{e}{c}A_x)}{m}$

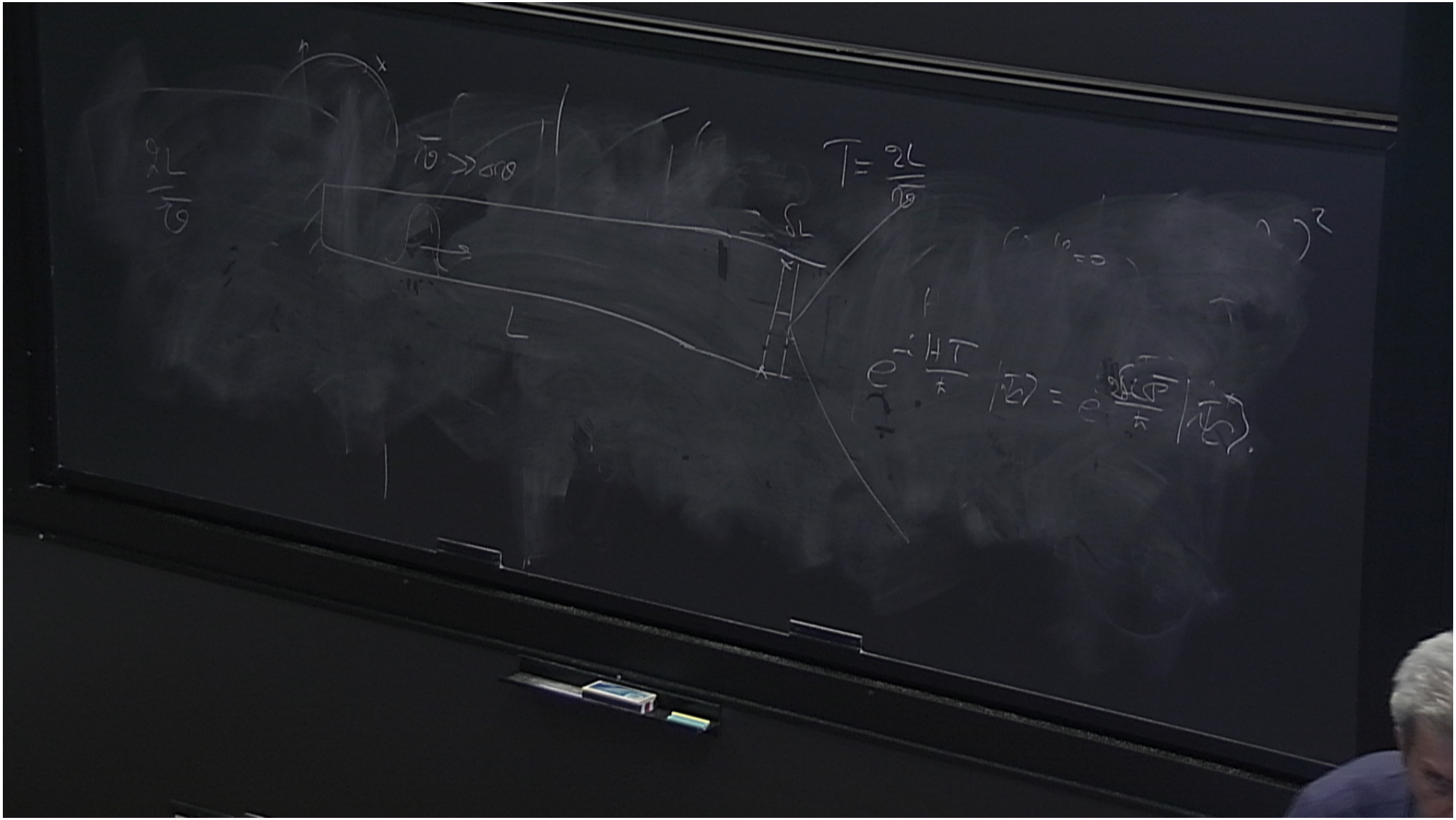

$e^{i\left(\hat{p}_x - f(x)\right)L}$
$e^{i\hat{p}_x L}$
$e^{i\int_x^{x+L} f(x)\,dx}$

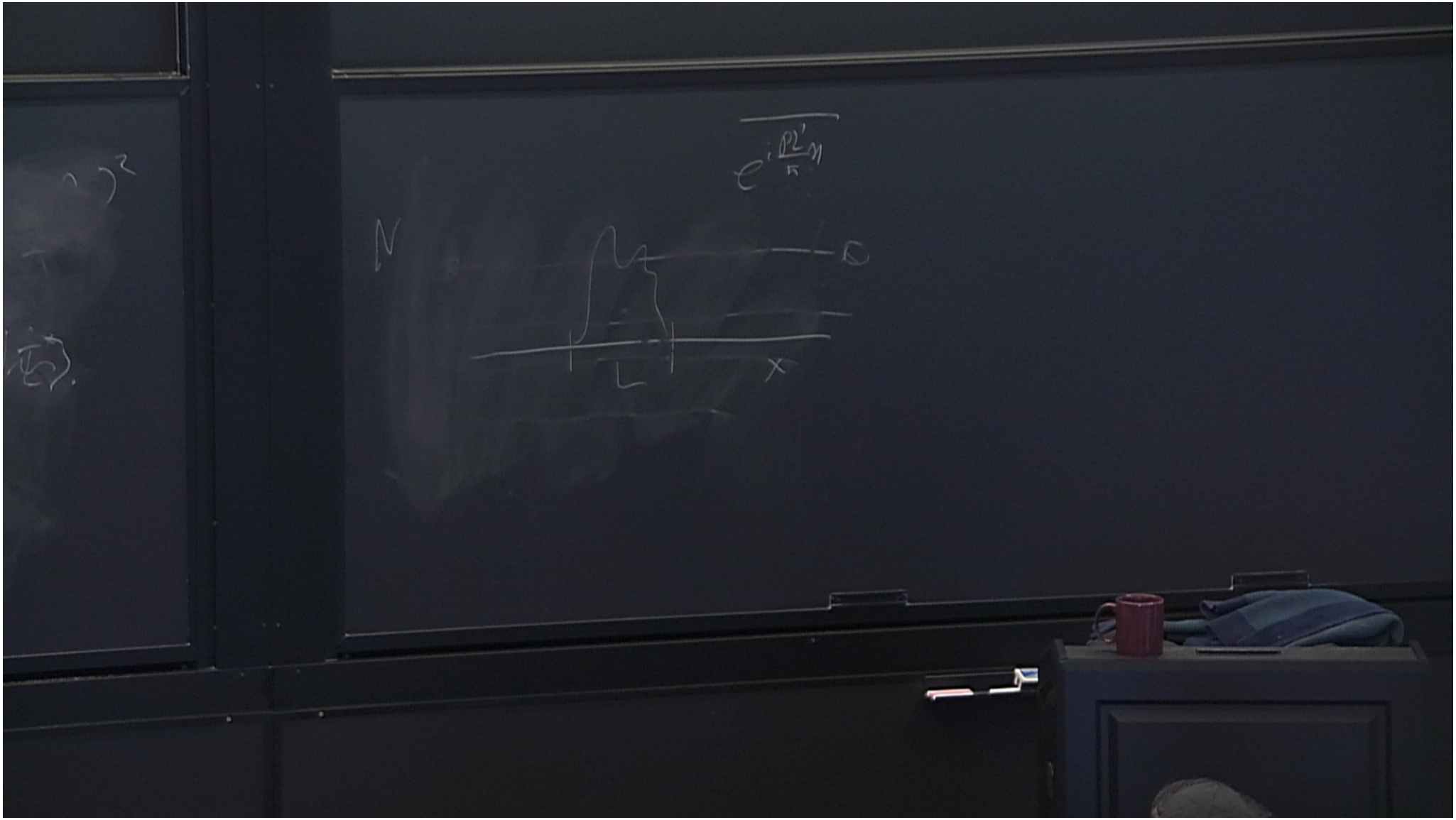


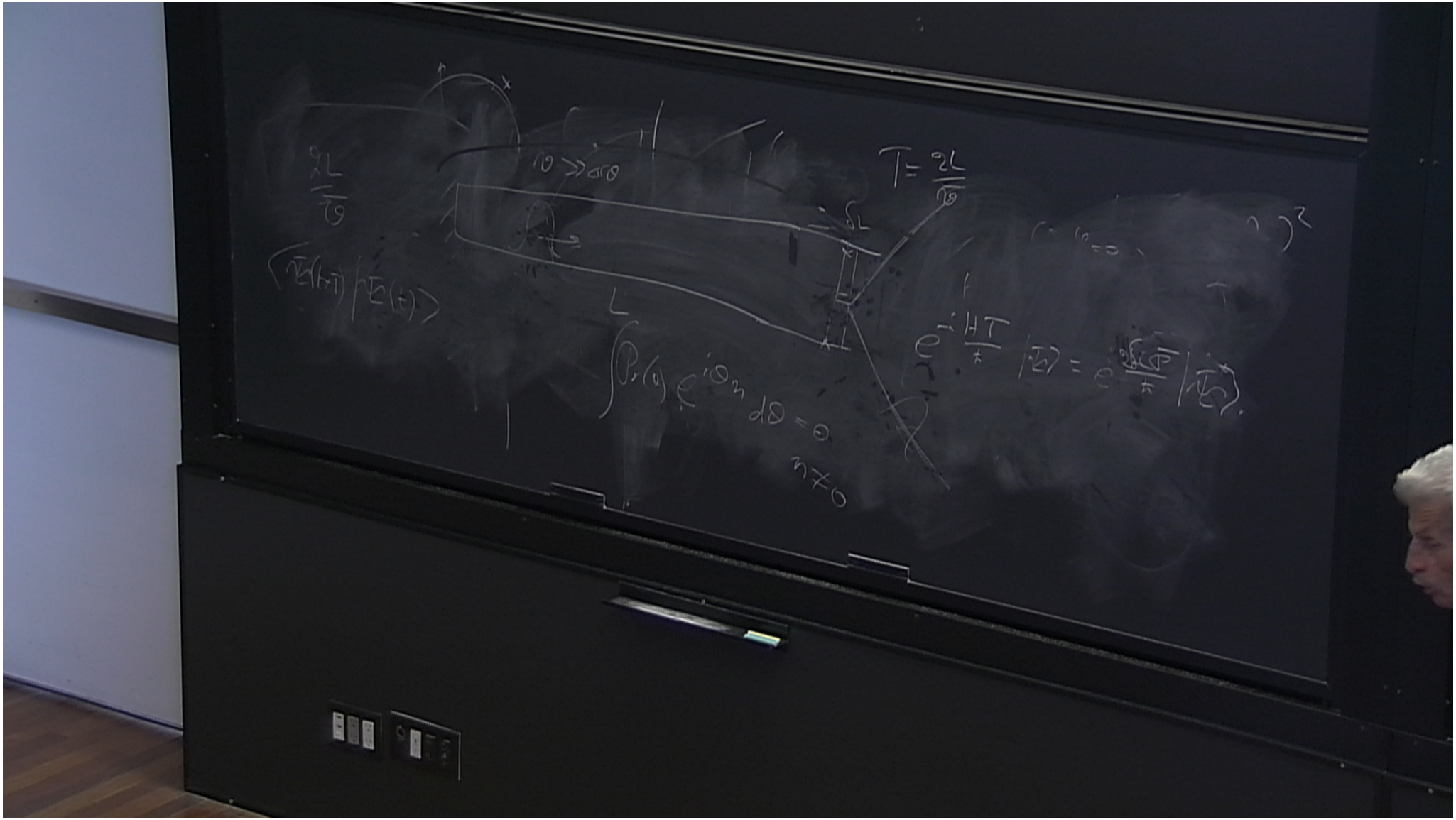

$\bar{\theta} \gg \sigma\theta$
L
$e^{i\left(\hat{p}_x - f(x)\right)L}$
$x+L$
$e^{i\hat{p}_x L}$
$e^{i\int_x^{x+L} f(x')\,dx'}$
$e^{i p_x L}$

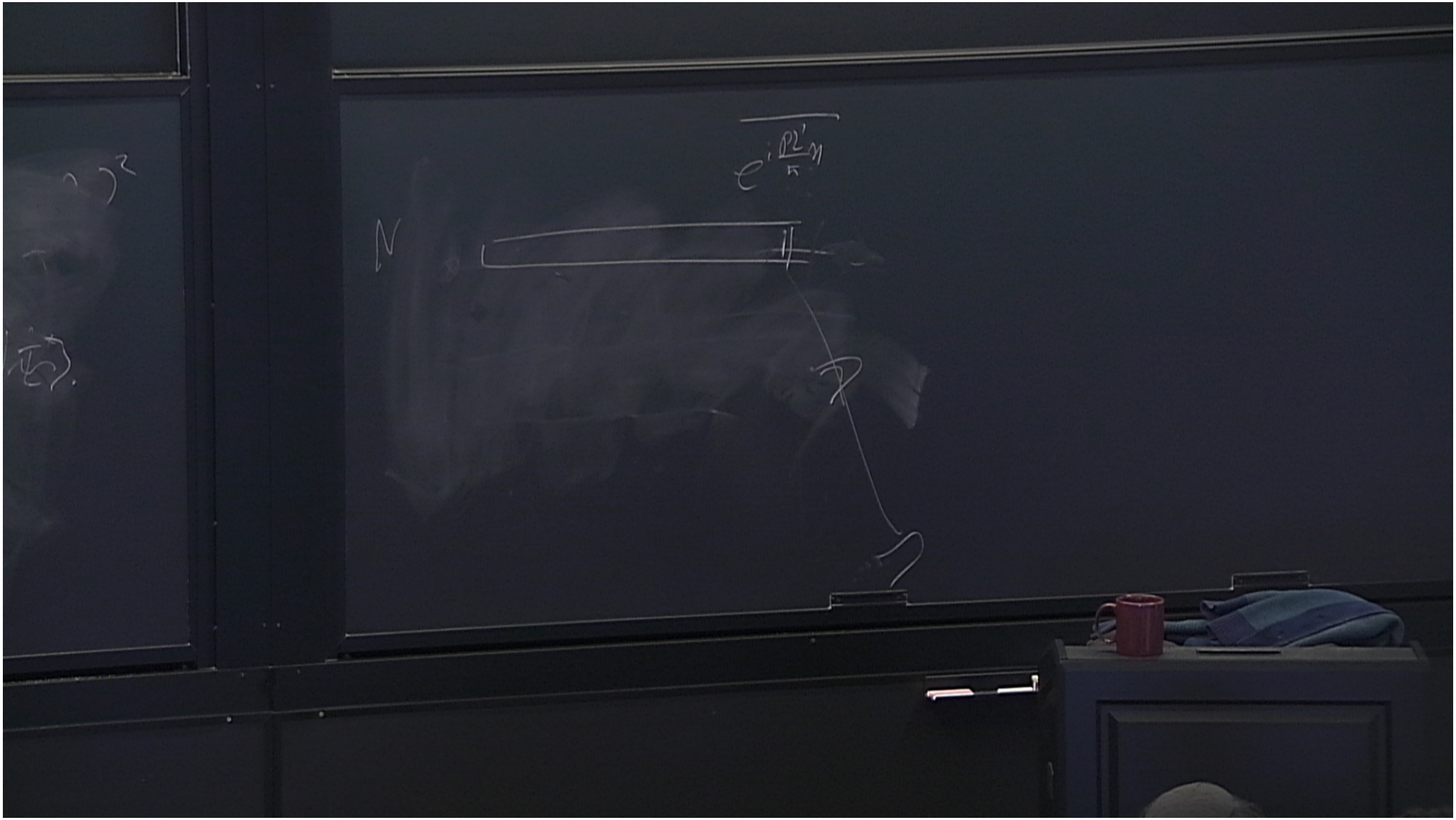

$\frac{2L}{v}$
$v \gg \Delta v$
L
$T = \frac{2L}{v}$
$e^{-i\frac{HT}{\hbar}}|\Sigma\rangle = e^{i\varphi}|\Sigma\rangle$
$E \bmod \frac{h}{T} = 1$

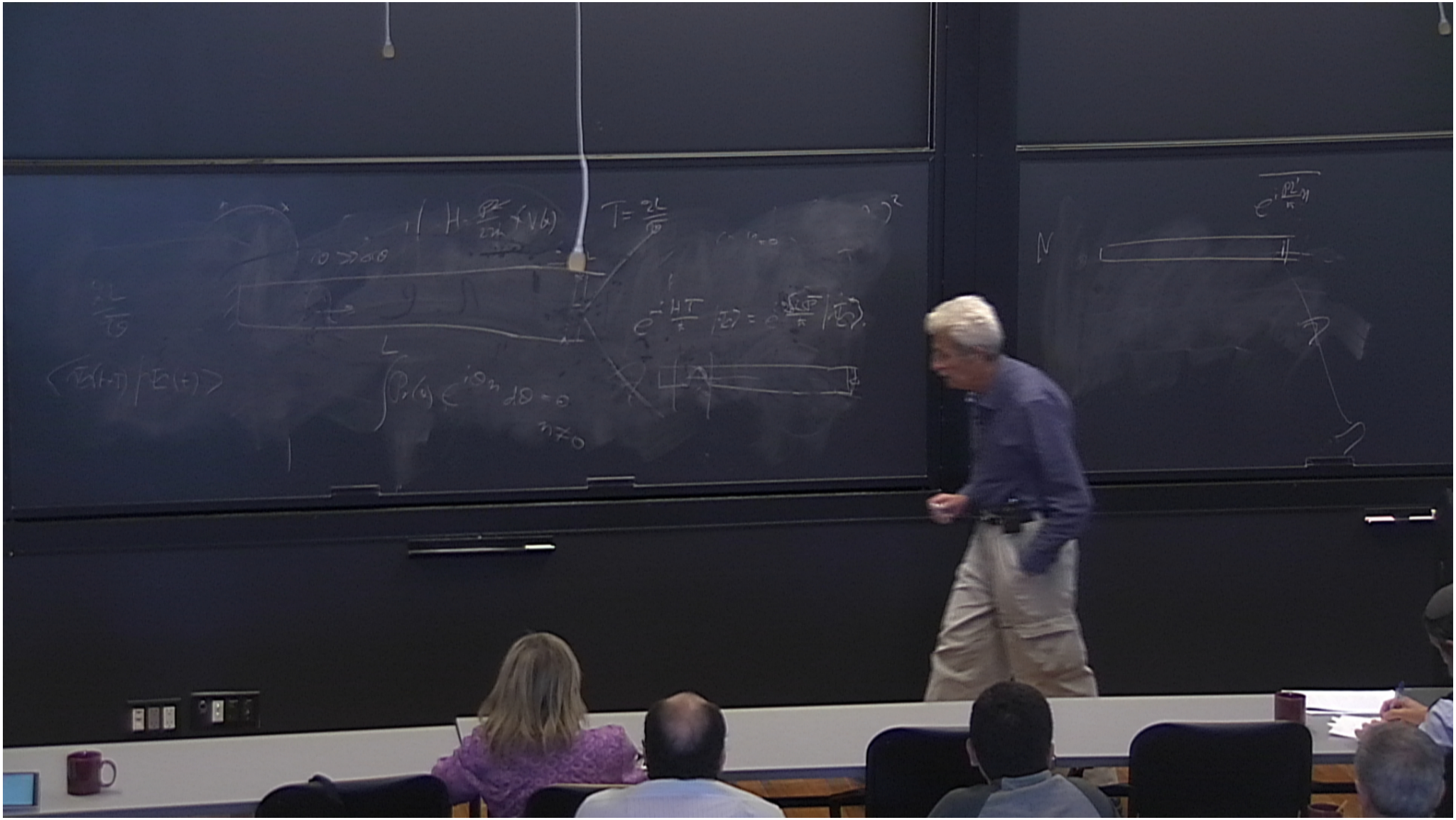

L
δL
T = 2L/v
v >> δv

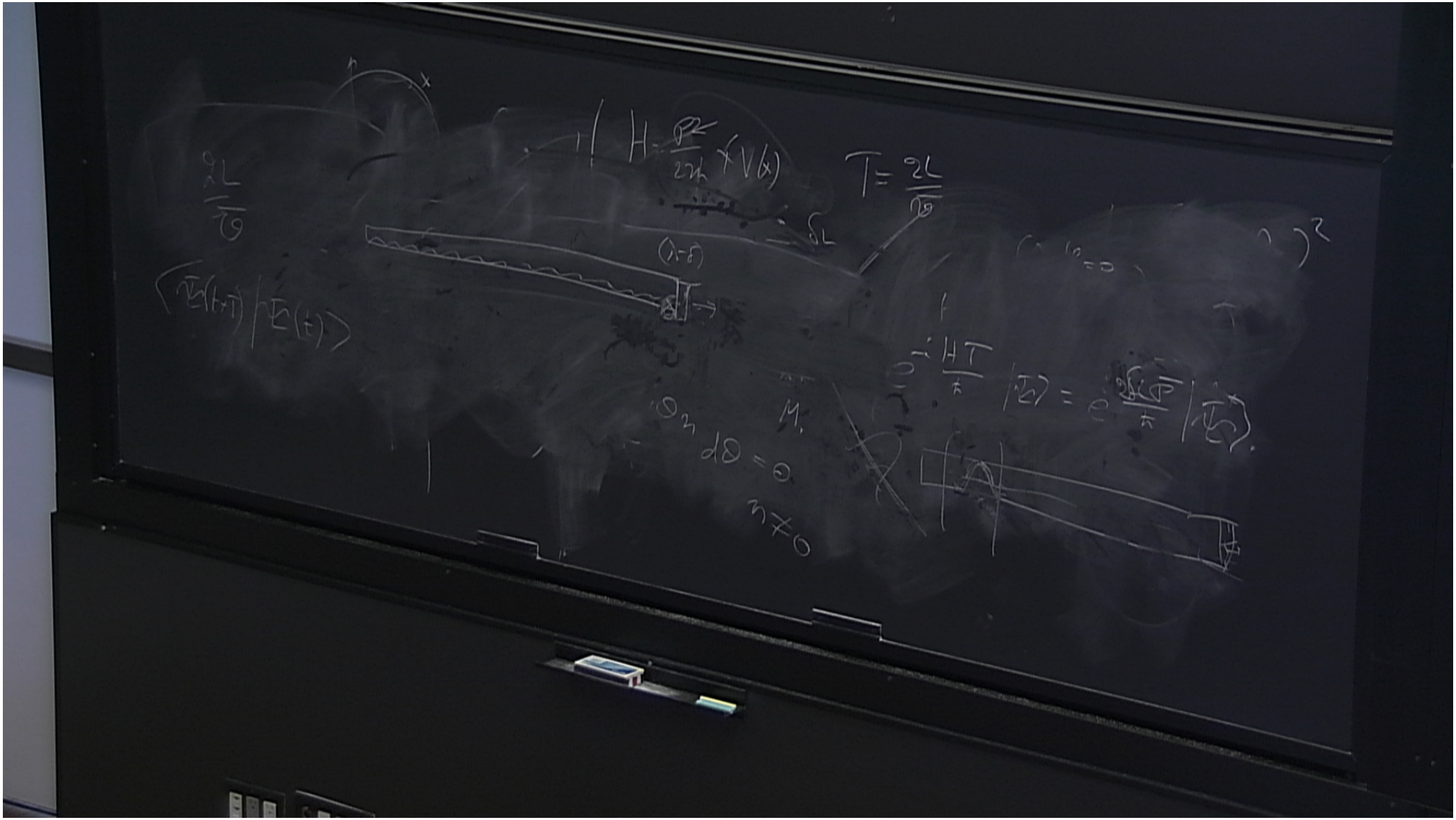

L
T = 2L/v

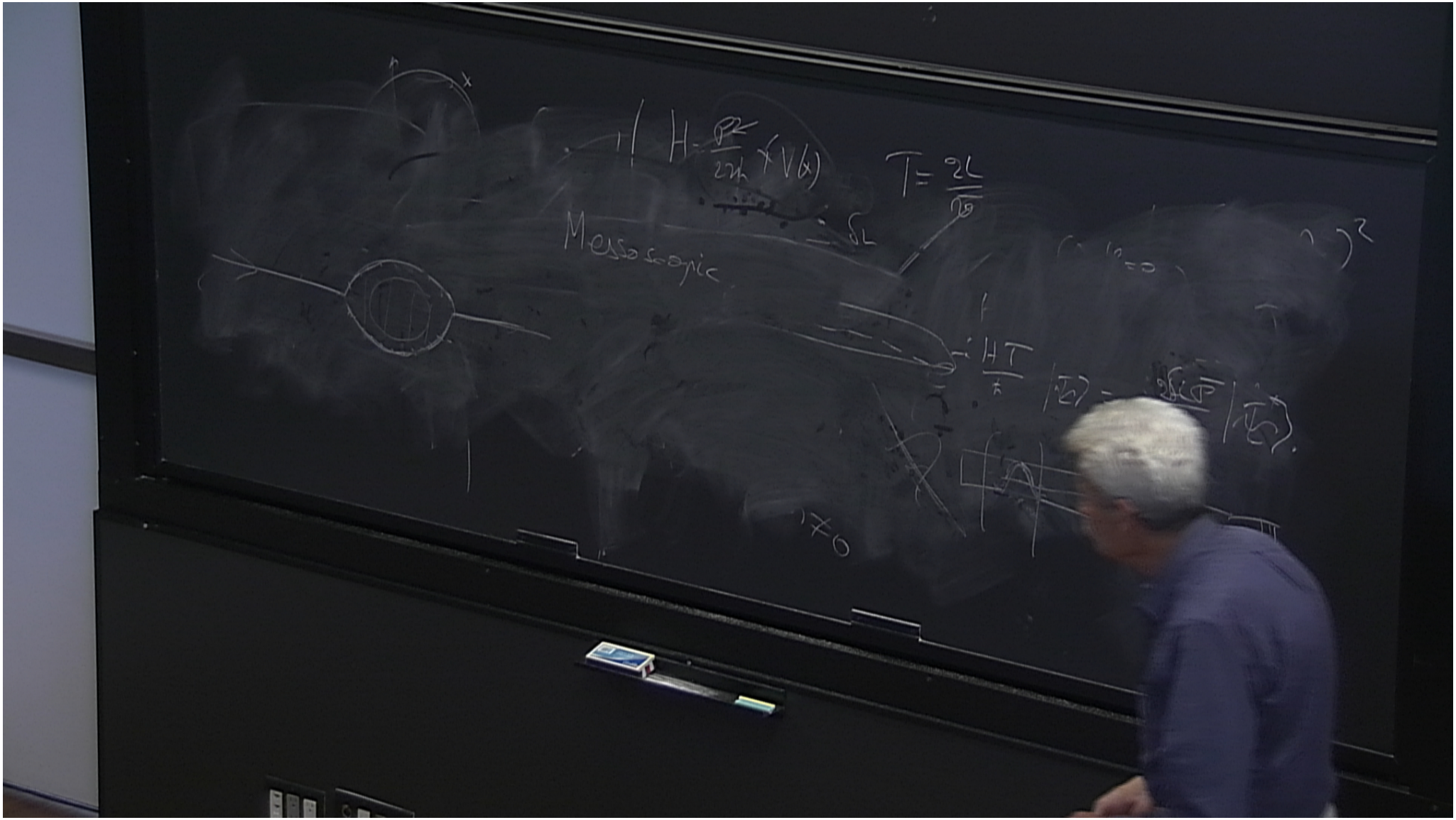

N
0
L
x


$\frac{2L}{v}$
$\theta \gg \Delta\theta$
$T = \frac{2L}{v}$
δL
$\langle \Sigma(t+T) | \Sigma(t) \rangle$
L
$\int P_n(\theta) e^{i\theta n} d\theta = 0$
$n \neq 0$
$e^{-\frac{iHT}{\hbar}} |\Sigma\rangle = e^{\frac{2\pi i \sigma}{\hbar}} |\Sigma\rangle$


N




H = p²/2m + V(x)
T = 2L/v
2L/v
(1-δ)
δL
|Ψ(t+T)⟩ = |Ψ(t)⟩
M.
∮ dθ = 0
n ≠ 0
|Ψ⟩ = e^(2πiφ/n) |Ψ⟩


Mesoscopic