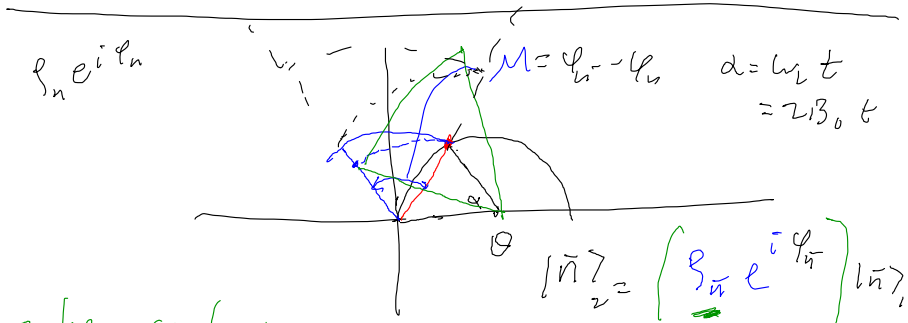
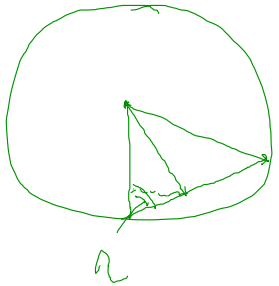
Nuc Phys A536, 648 (1992)

NIM A284 66 (1989)



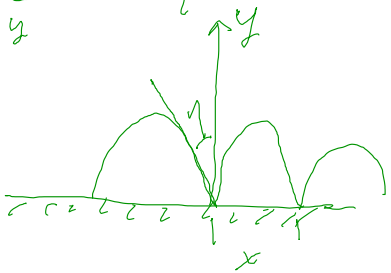
1. coherence between collisions
2. Sensitivity of experiment

$E_\perp$



$v_\perp = v\cos\eta$

v_y

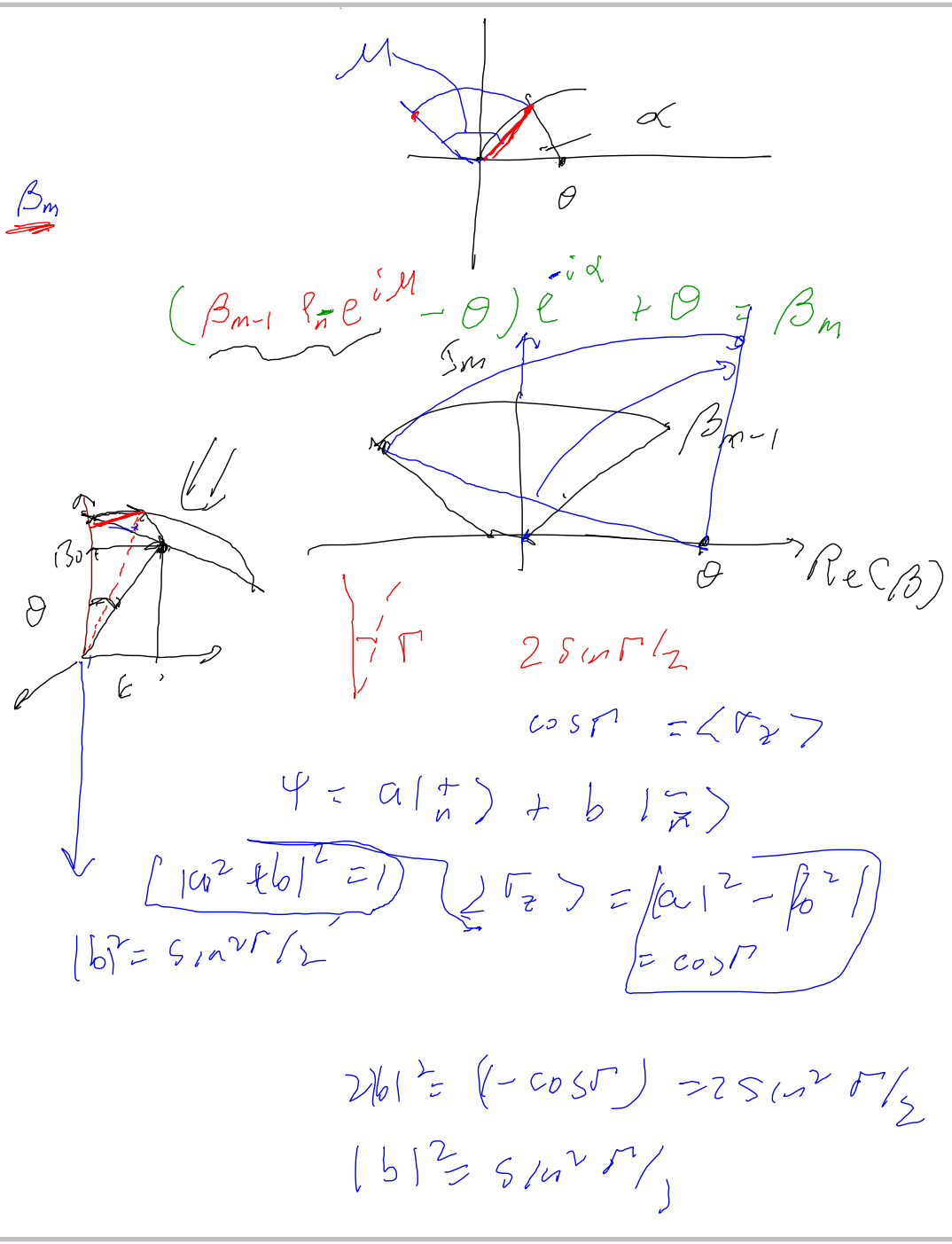


$\tau_c = 2v_y/g$

$x = v_x \tau_c = \frac{2v^2 \cos\eta \sin\eta}{g}$

$M = f(v_\perp)$

$\alpha = \omega_L t_c \sim \beta_0 v_y/g$


μ
α
θ
β_m
$(\beta_{m-1} \rho_n e^{i\mu} - \theta) e^{-i\alpha} + \theta = \beta_m$
$\Im m$
β_{m-1}
θ
$Re(\beta)$
Γ
$2\sin\Gamma/2$
$\cos\Gamma = \langle \Gamma_z \rangle$
$\psi = a|+_n\rangle + b|-_n\rangle$
$|a|^2 + |b|^2 = 1$
$\langle \Gamma_z \rangle = |a|^2 - |b|^2$
$= \cos\Gamma$
$|b|^2 = \sin^2\Gamma/2$
$2|b|^2 = (1 - \cos\Gamma) = 2\sin^2\Gamma/2$
$|b|^2 = \sin^2\Gamma/2$

$P_{n\bar{n}} \sim (\epsilon t)^2$ $\qquad \frac{\epsilon^2}{\alpha^2+\beta^2} \sin^2\left(\sqrt{\beta^2+\epsilon^2}\right)t$

$T \rightarrow$ measuring time

$$\left(P_{n\bar{n}}\right)_T = (\epsilon\tau)^2 \frac{T}{\tau} = \left(\epsilon^2 \tau T\right)$$

$\left\{\delta\tau_{n\bar{n}} \gtrsim 10^8 \text{ sec}\right\}$ exp.

$\tau_{ff} = .1 \text{ sec}$ (1 mev)

$\left(\frac{\tau_{ff}}{\tau_{n\bar{n}}}\right)^2 = (10^{-9})^2$ $\qquad \epsilon = 1/\tau_{n\bar{n}}$

$\sim 10^{-18}$ / neutron

10^9/sec

1 year $= 3 \times 10^7$ sec

$$(\beta_{n-1}\, \xi_n e^{i\mu} - \theta)\, e^{-i\alpha} + \theta = \beta_n$$

$$\sum_{m=1}^{n} \beta_m \xi^{(n-m)} e^{i(n-m)(\mu-\alpha)}$$

$$= \sum_{m=1}^{n} \xi^{(n-m+1)} e^{i(n-m+1)(\mu-\alpha)} \beta_{m-1} + \xi^{(n-m)} e^{i(n-m)(\mu-\alpha)} [\theta][1-e^{-i\alpha}]$$

$$\beta_N = \frac{\theta[1-e^{-i\alpha}]\{1-\xi_n^N e^{i\mu(n-\alpha)}\}}{(1-\xi e^{i(\mu-\alpha)})}$$