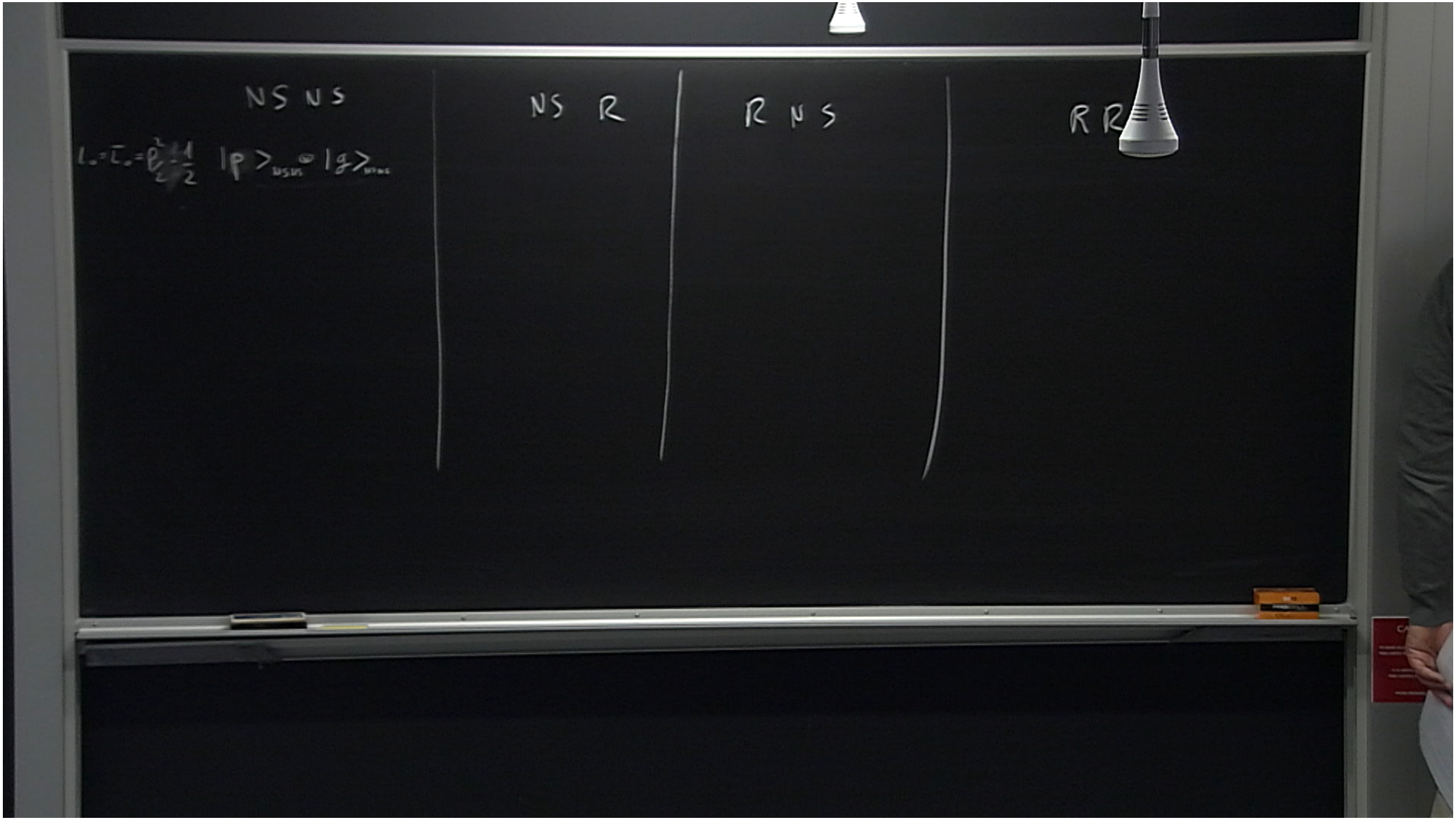
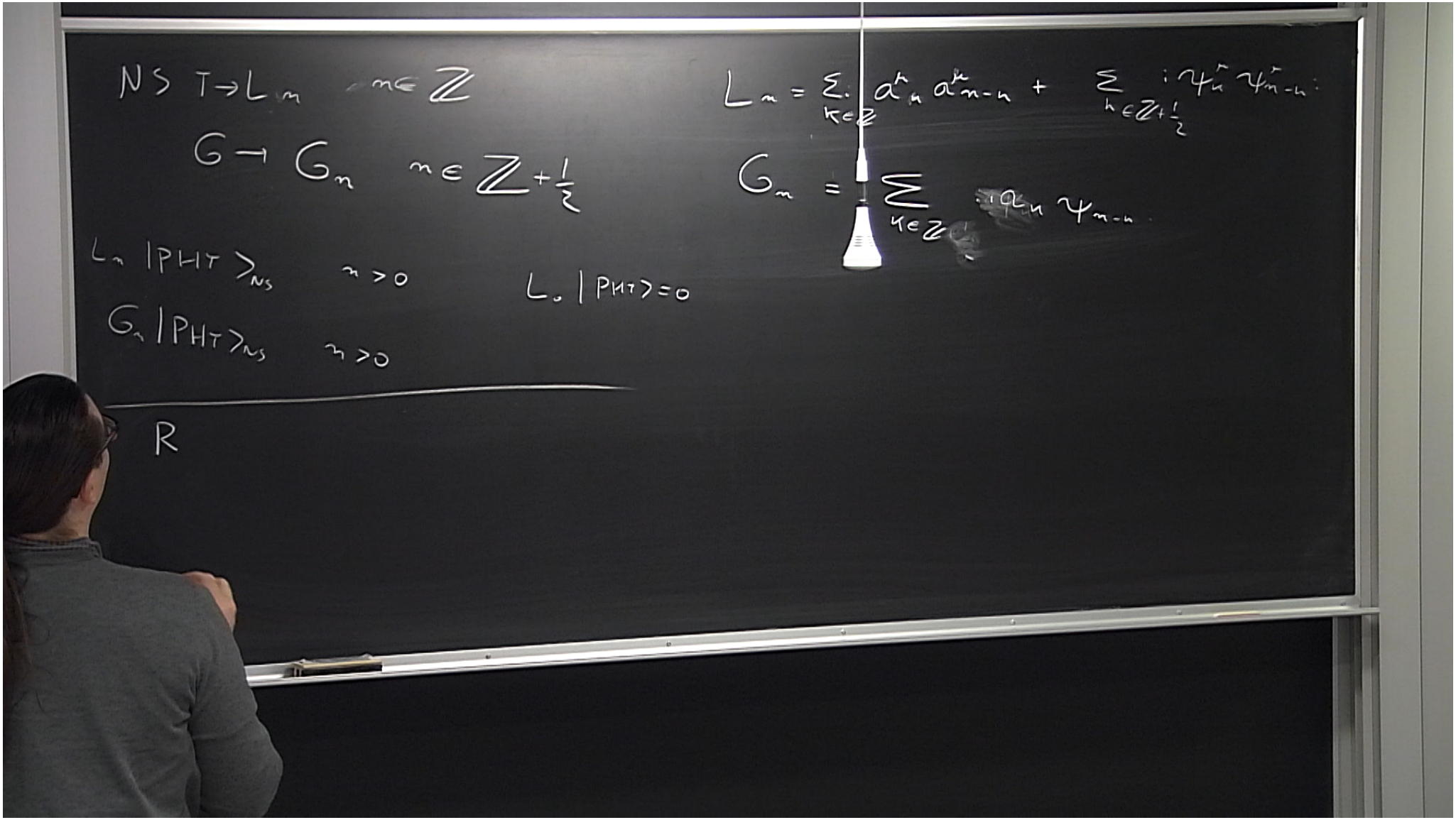
Title: PSI 2017/2018 - String Theory - Lecture 14

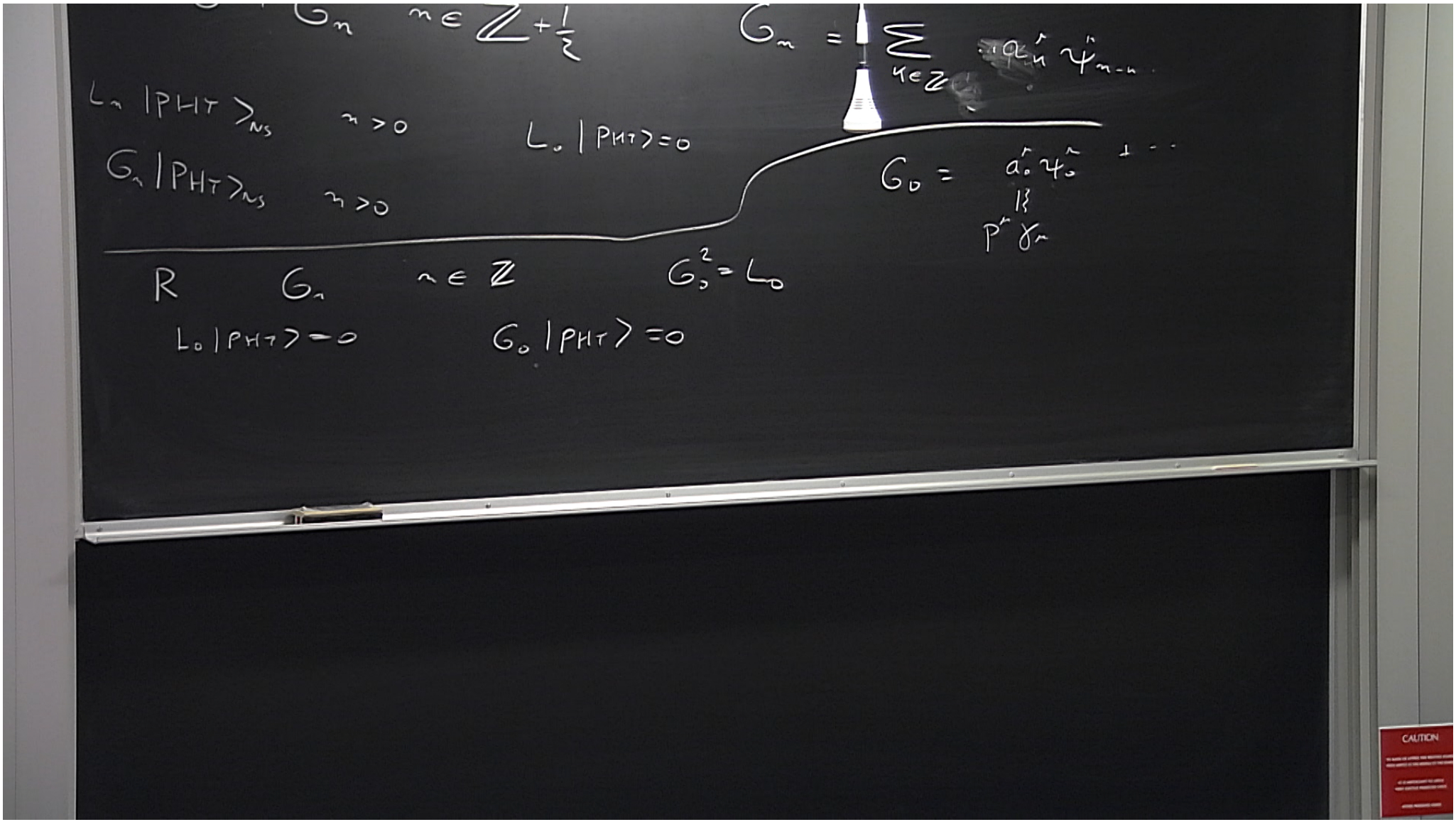
Date: Mar 09, 2018 10:15 AM

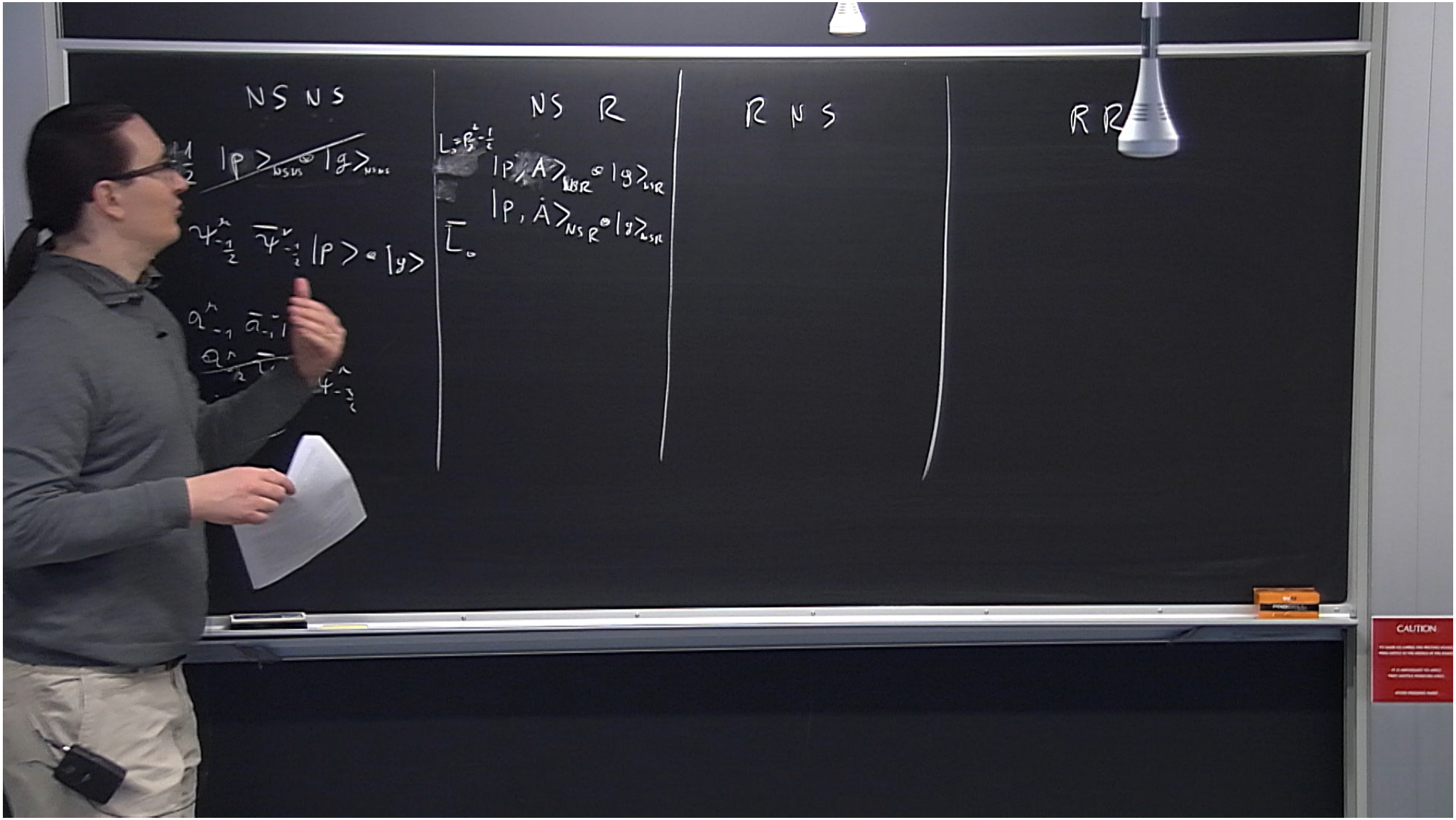
URL: http://pirsa.org/18030020

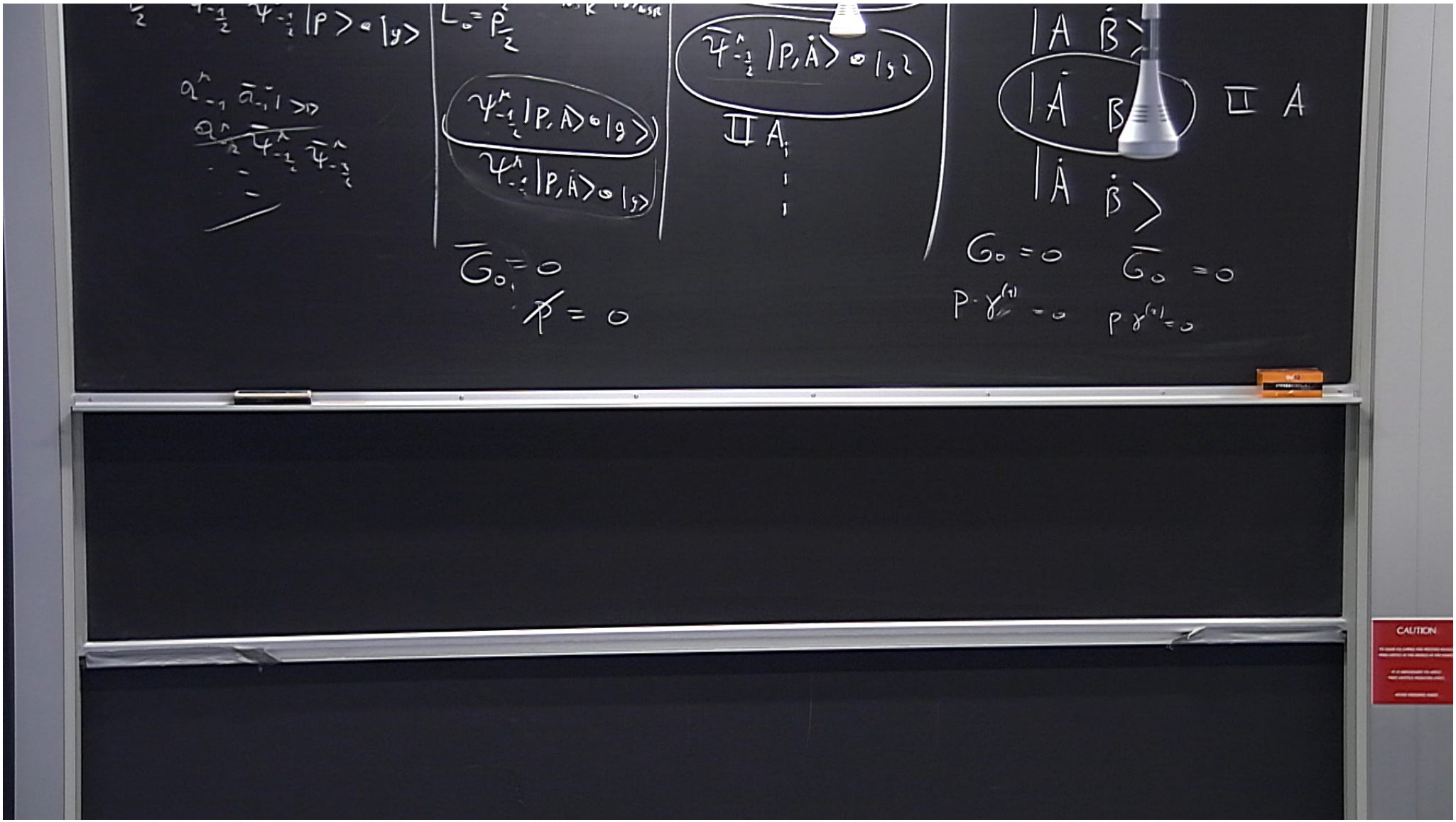
Abstract:

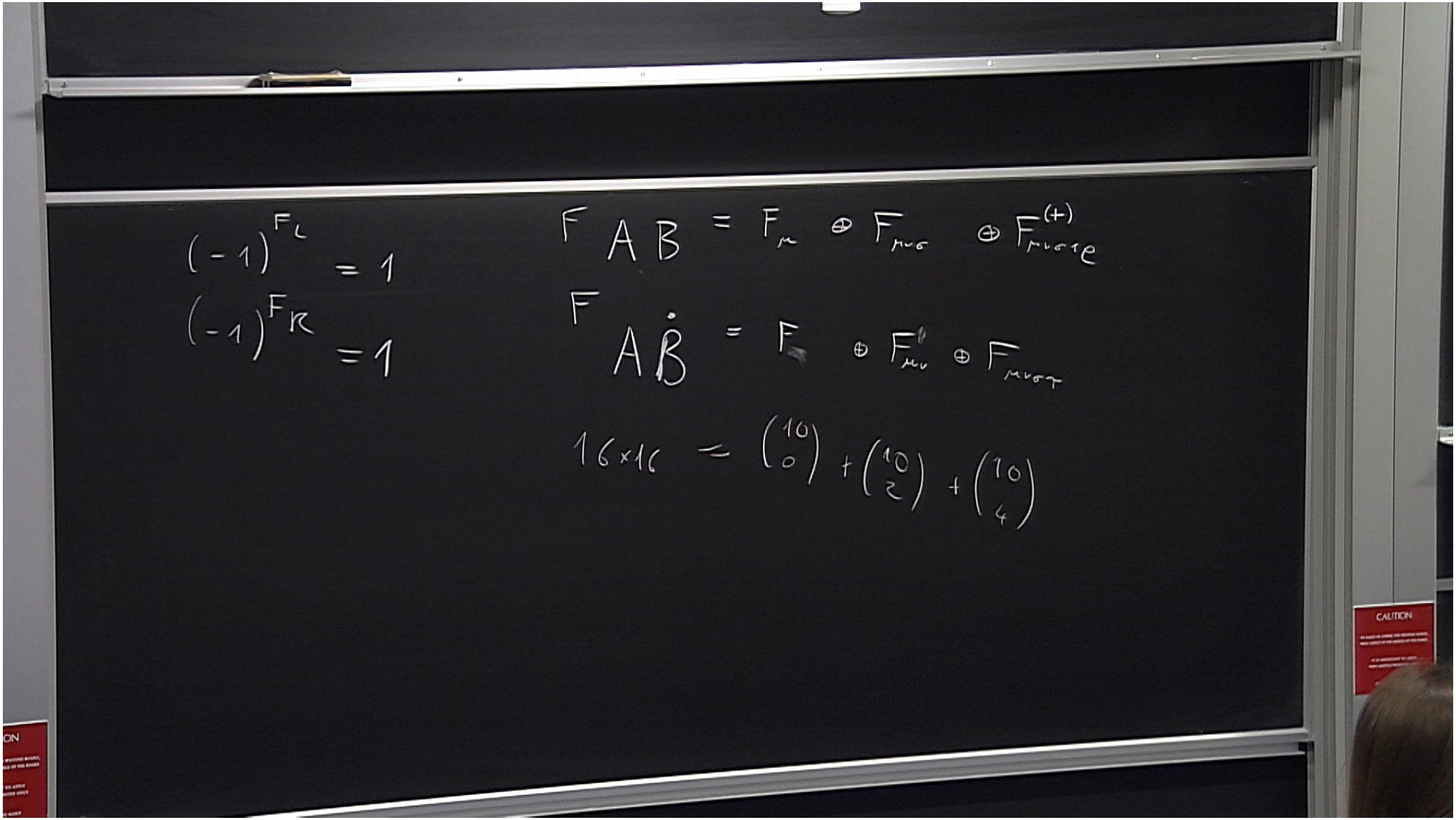

NS NS
NS R
R NS
R R

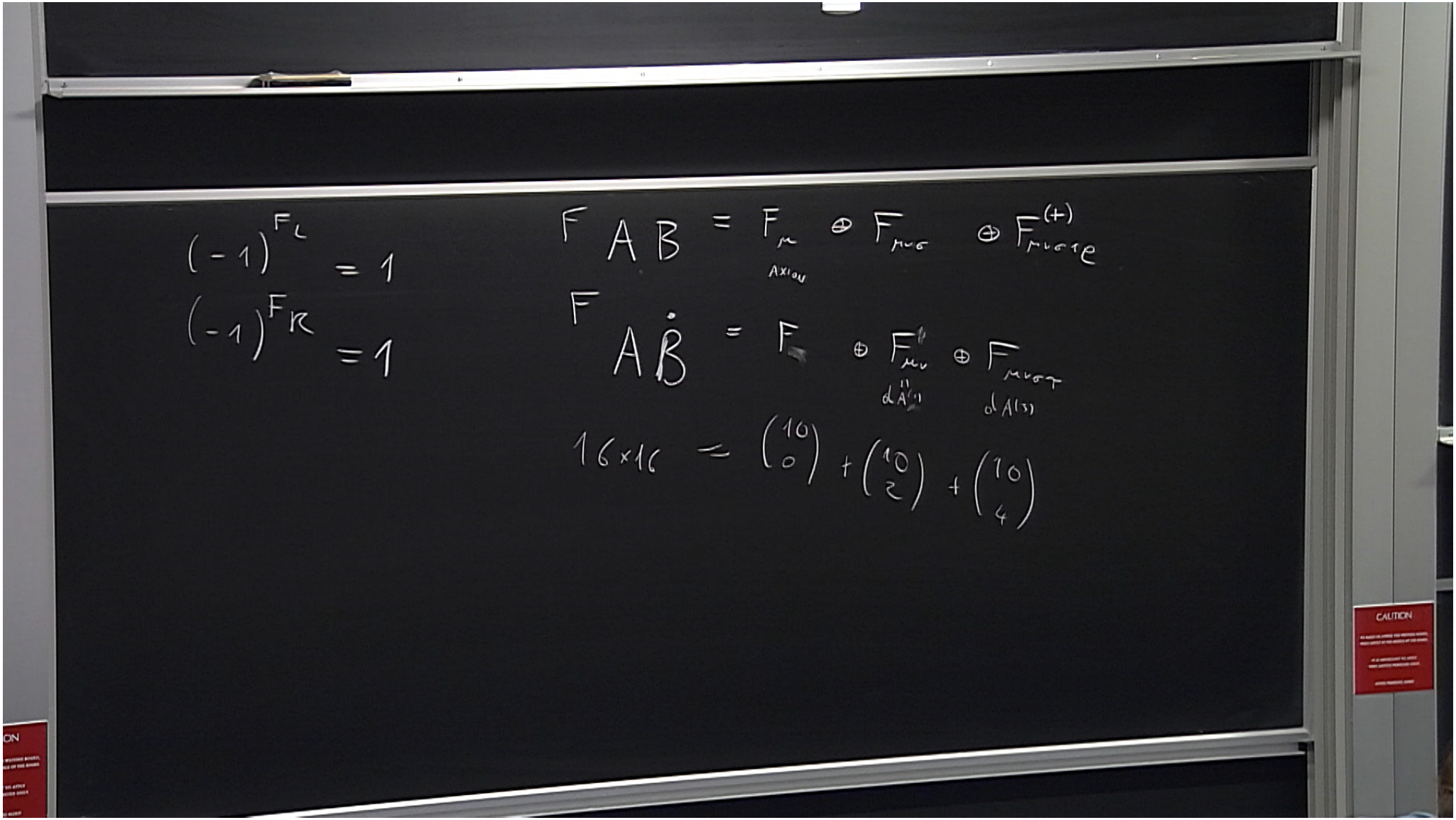

NS T → L_m m ∈ ℤ
G → G_n n ∈ ℤ + 1/2
L_n |PHT⟩_NS n > 0
G_n |PHT⟩_NS n > 0
L_0 |PHT⟩ = 0
R


$G_n \quad n \in \mathbb{Z}+\frac{1}{2}$
$G_m = \sum_{k \in \mathbb{Z}} : \alpha_k \psi_{m-k}$
$L_n |PHT\rangle_{NS} \quad n>0$
$L_0 |PHT\rangle = 0$
$G_n |PHT\rangle_{NS} \quad n>0$
$G_0 = a_0 \psi_0 + \cdots$
$p^\mu \gamma_\mu$
R $\quad G_n \quad n \in \mathbb{Z} \quad G_0^2 = L_0$
$L_0 |PHT\rangle = 0 \qquad G_0 |PHT\rangle = 0$
CAUTION


NS NS
NS R
R NS
R R
CAUTION


$L_0 = P_2$
$\bar{G}_0 = 0$
$P = 0$
II A_1
$G_0 = 0$
$P \cdot \gamma^{(1)} = 0$
$\bar{G}_0 = 0$
$P \gamma^{(1)} = 0$
II A
CAUTION


$(-1)^{F_L} = 1$
$(-1)^{F_R} = 1$
$F_{AB} = F_{\mu} \oplus F_{\mu\nu} \oplus F^{(+)}_{\mu\nu\sigma\tau}$
$F_{A\dot{B}} = F \oplus F'_{\mu\nu} \oplus F_{\mu\nu\sigma}$
$16 \times 16 = \binom{10}{0} + \binom{10}{2} + \binom{10}{4}$
CAUTION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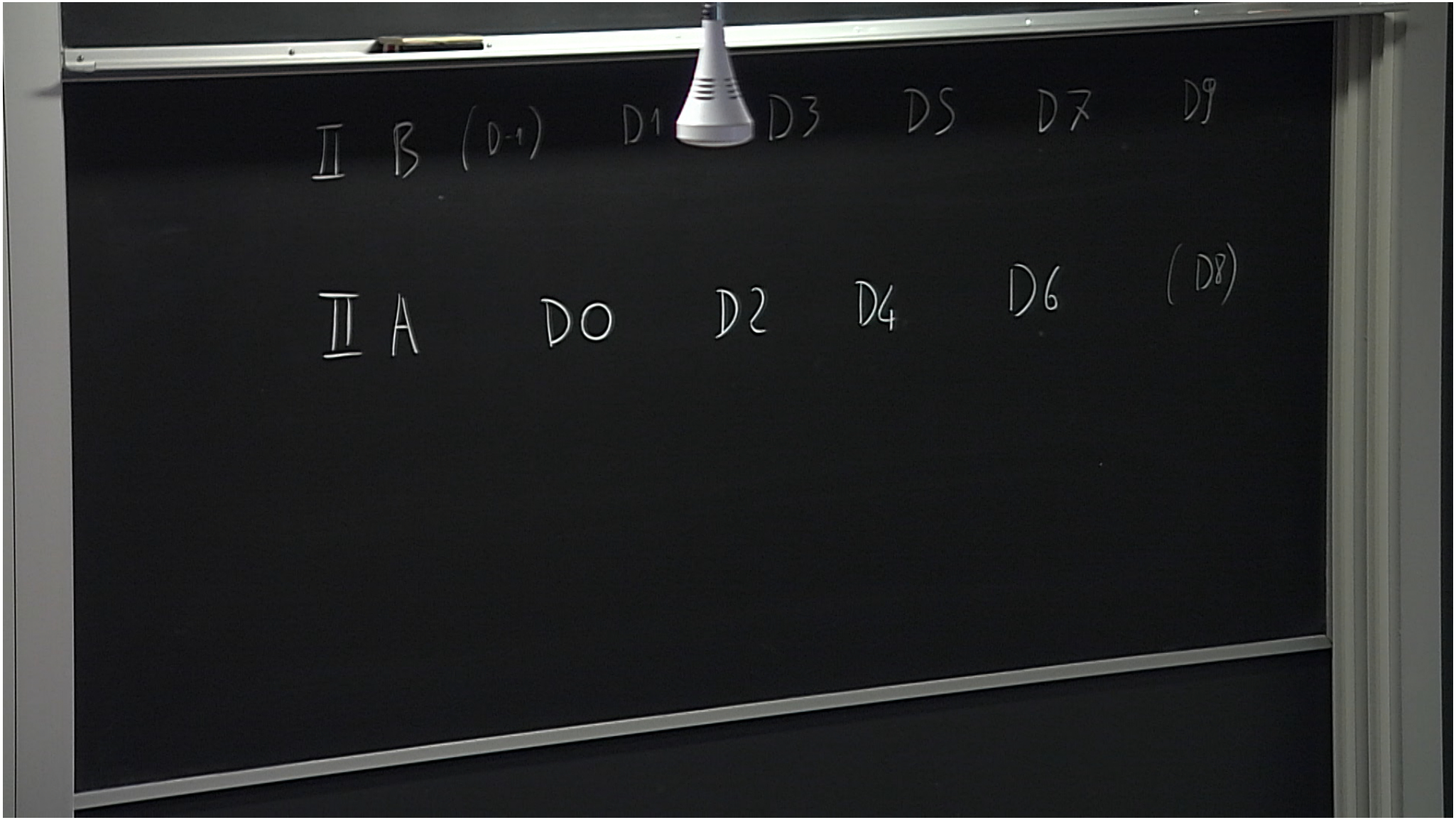
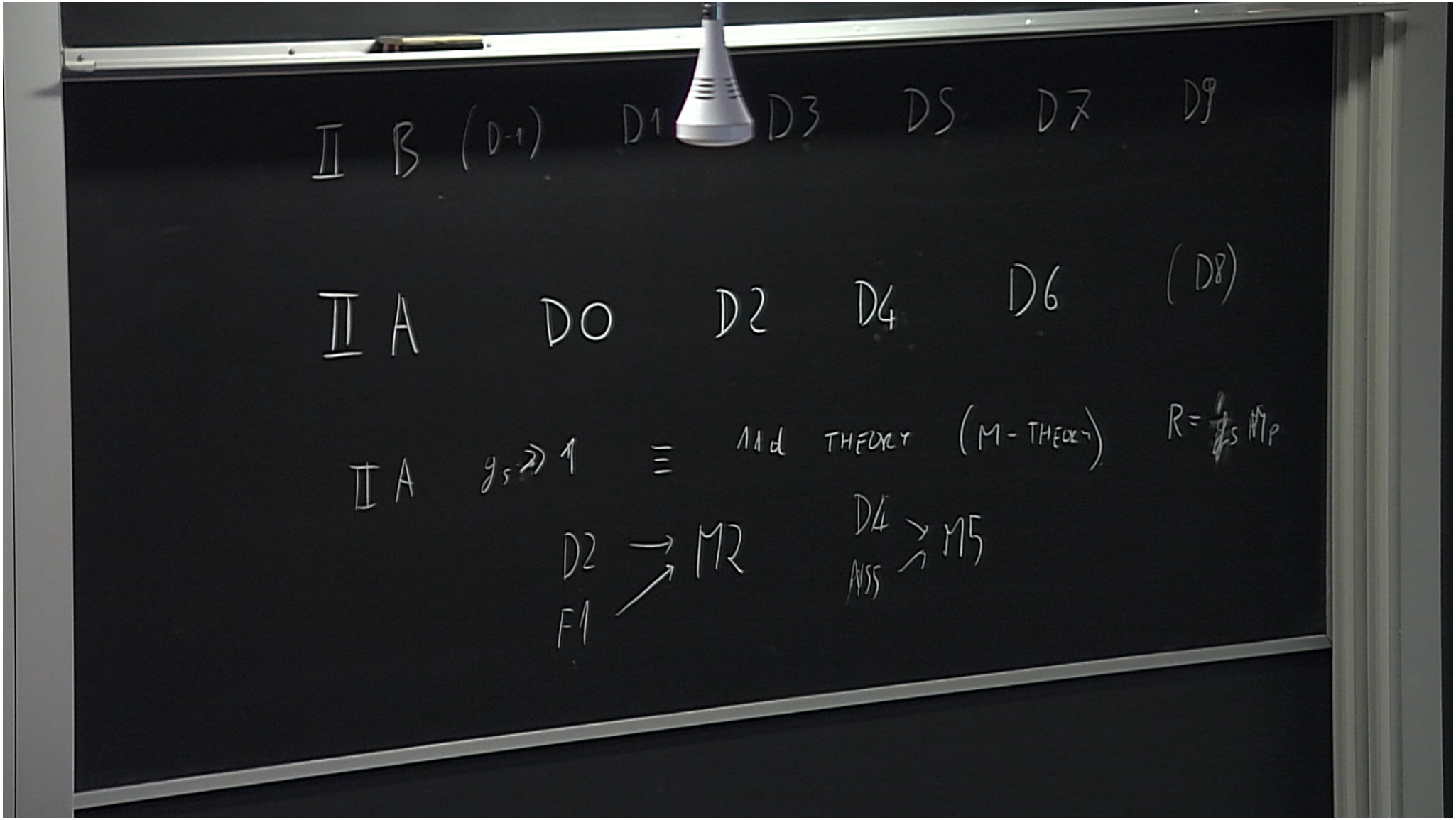
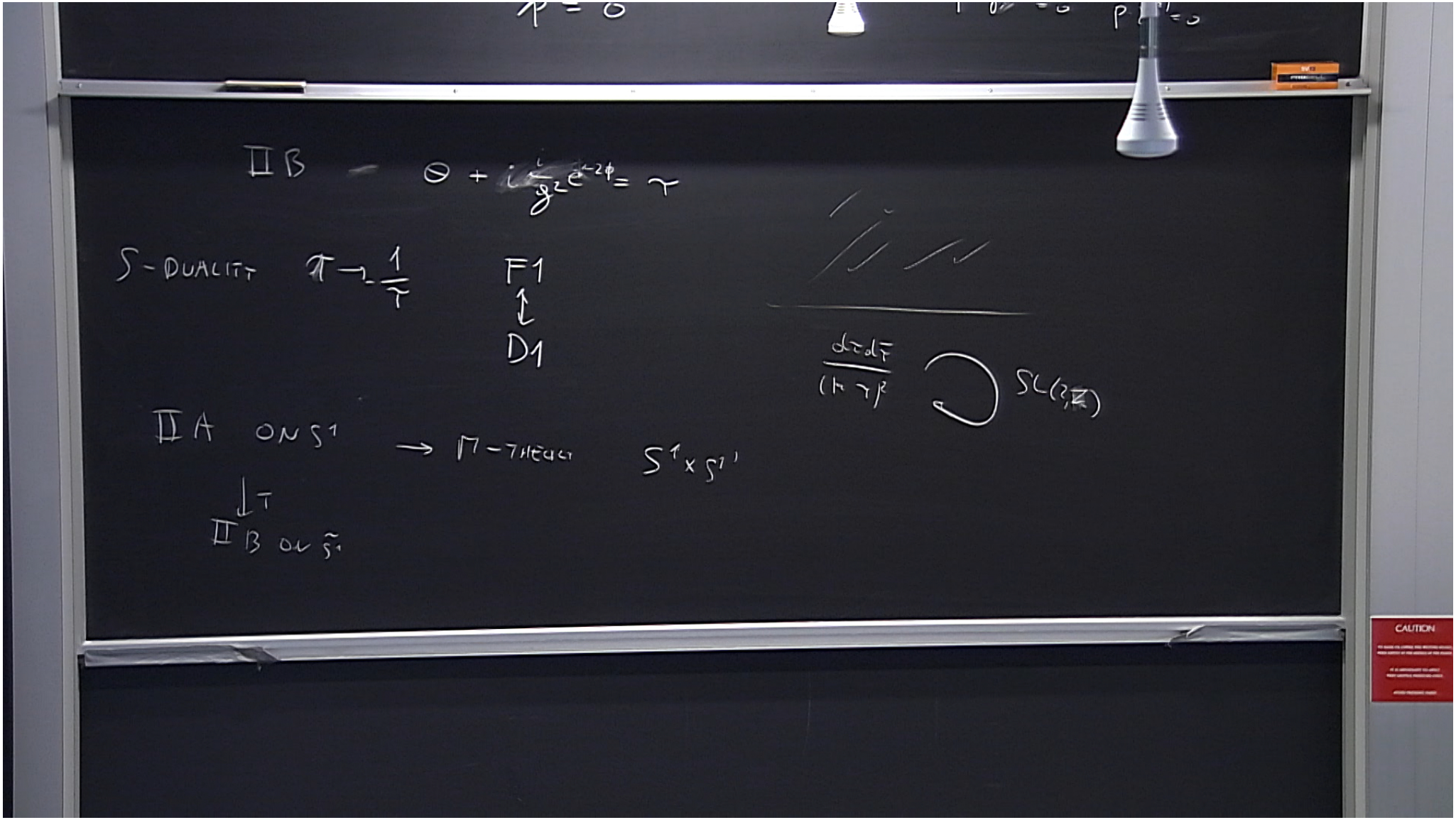
CAUTION


II B (D-1) D1 D3 D5 D7 D9
II A D0 D2 D4 D6 (D8)


II B (D-1) D1 D3 D5 D7 D9
II A D0 D2 D4 D6 (D8)
II A $g_s \gg 1$ ≡ 11d THEORY (M-THEORY) $R = g_s M_p$
D2 → M2
F1
D4 → M5
NS5


IIB
S-DUALITY
F1
D1
IIA ON S^1
IIB ON $\tilde{S}^1$
M-THEORY
$S^1 \times S^1$
$SL(2,\mathbb{Z})$
CAUTION