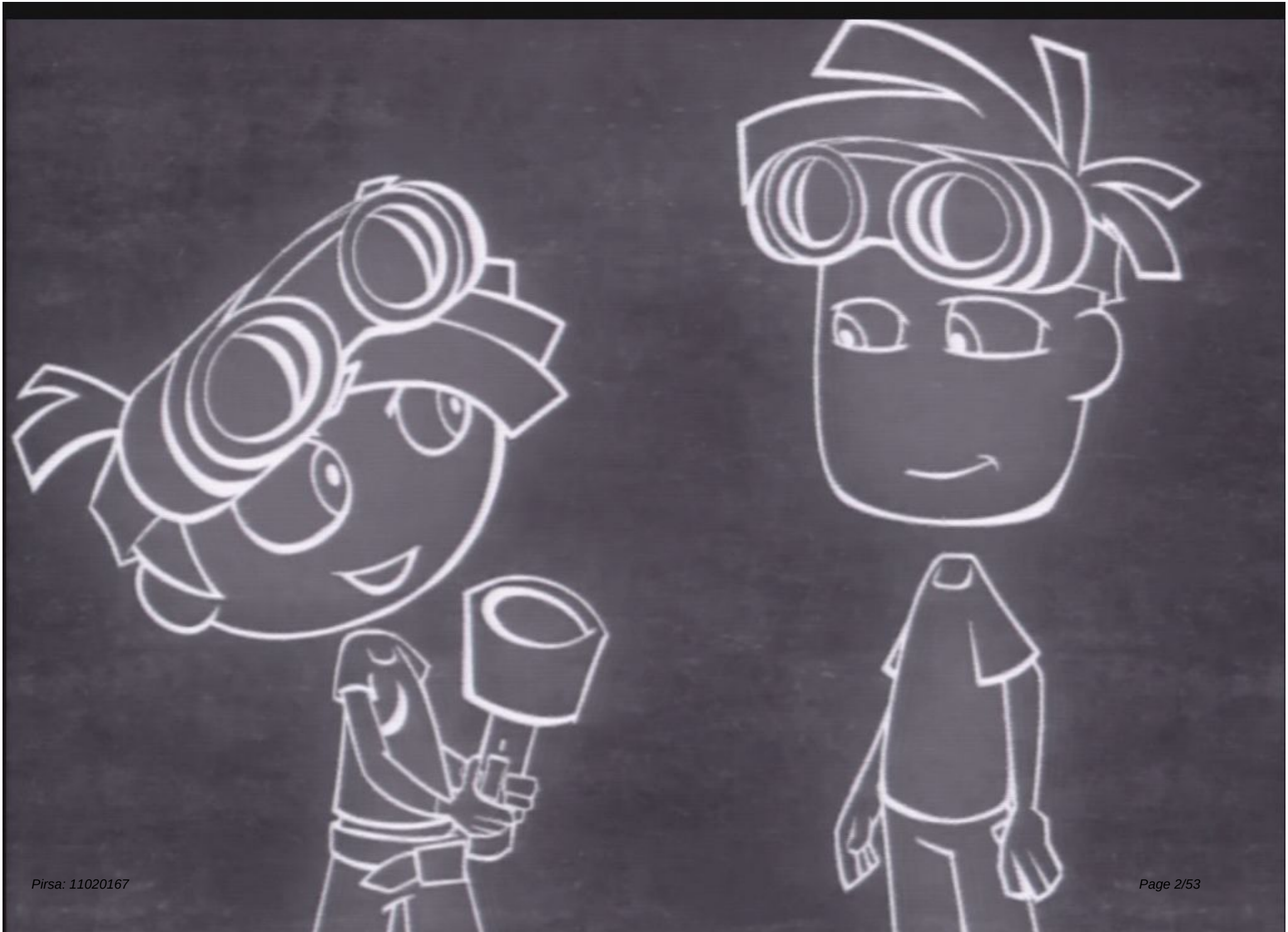
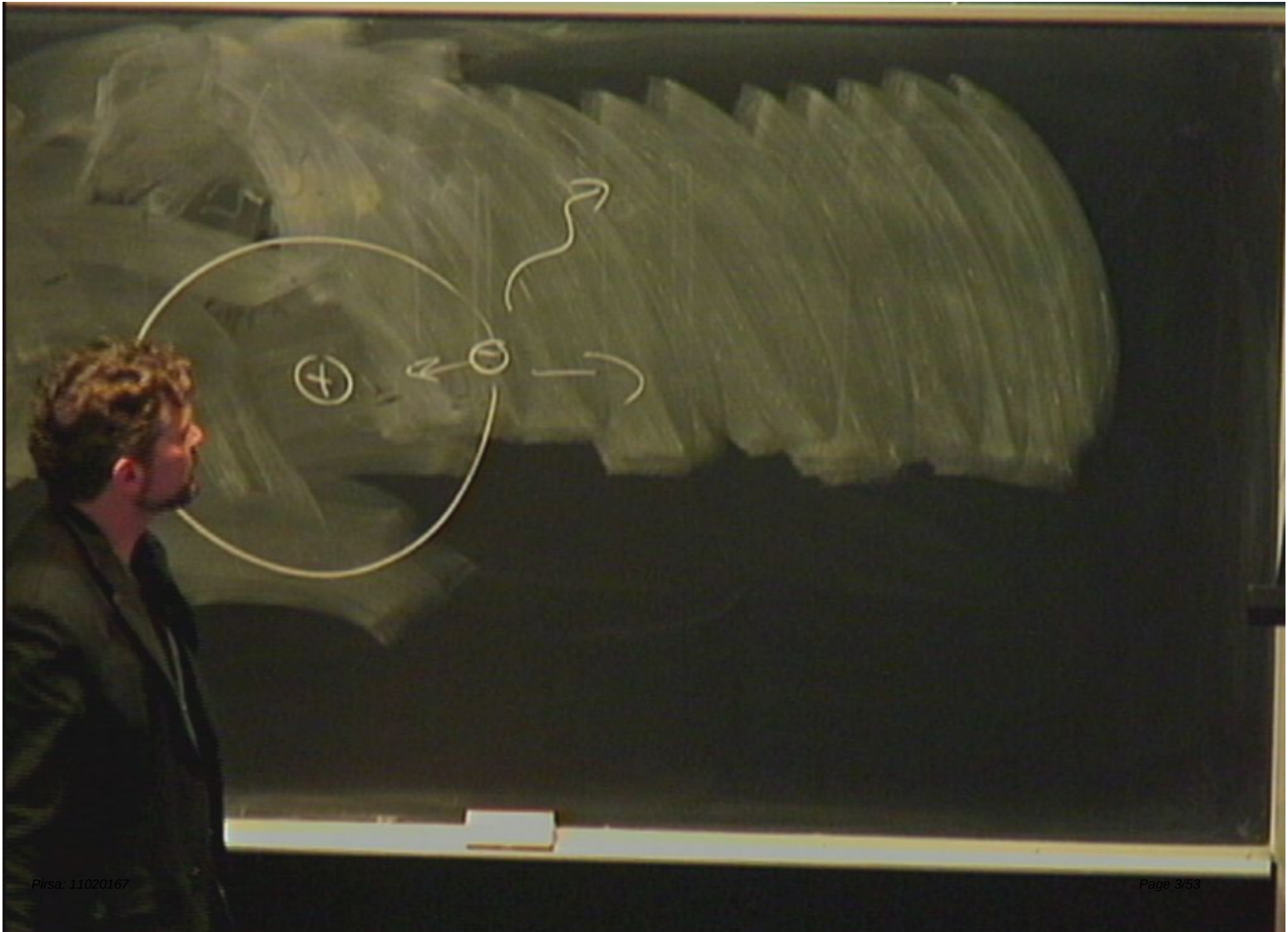
Title: Go Physics - Modern Physics Part 2: Quantum Theory

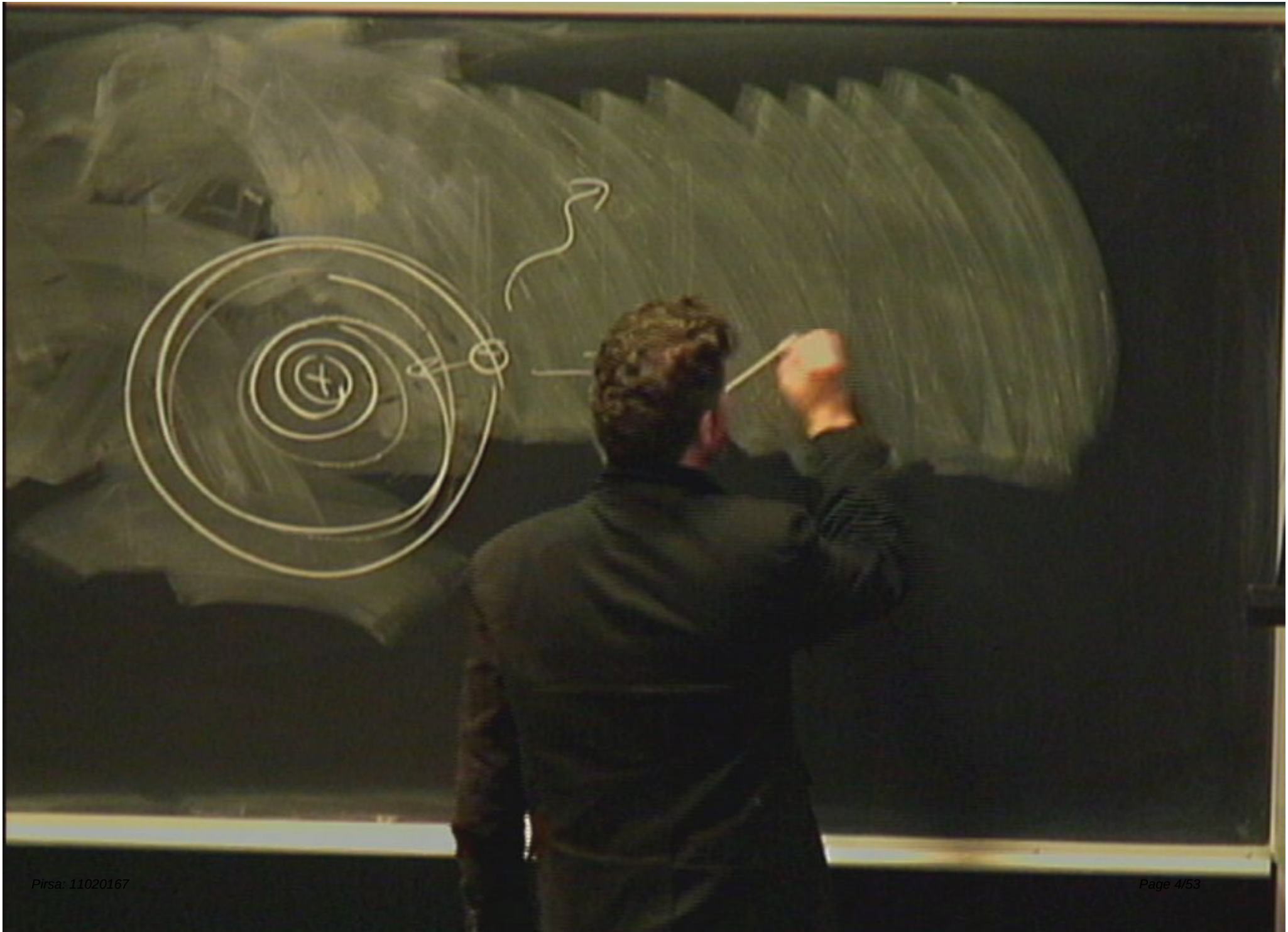
Date: Feb 26, 2011 12:30 PM

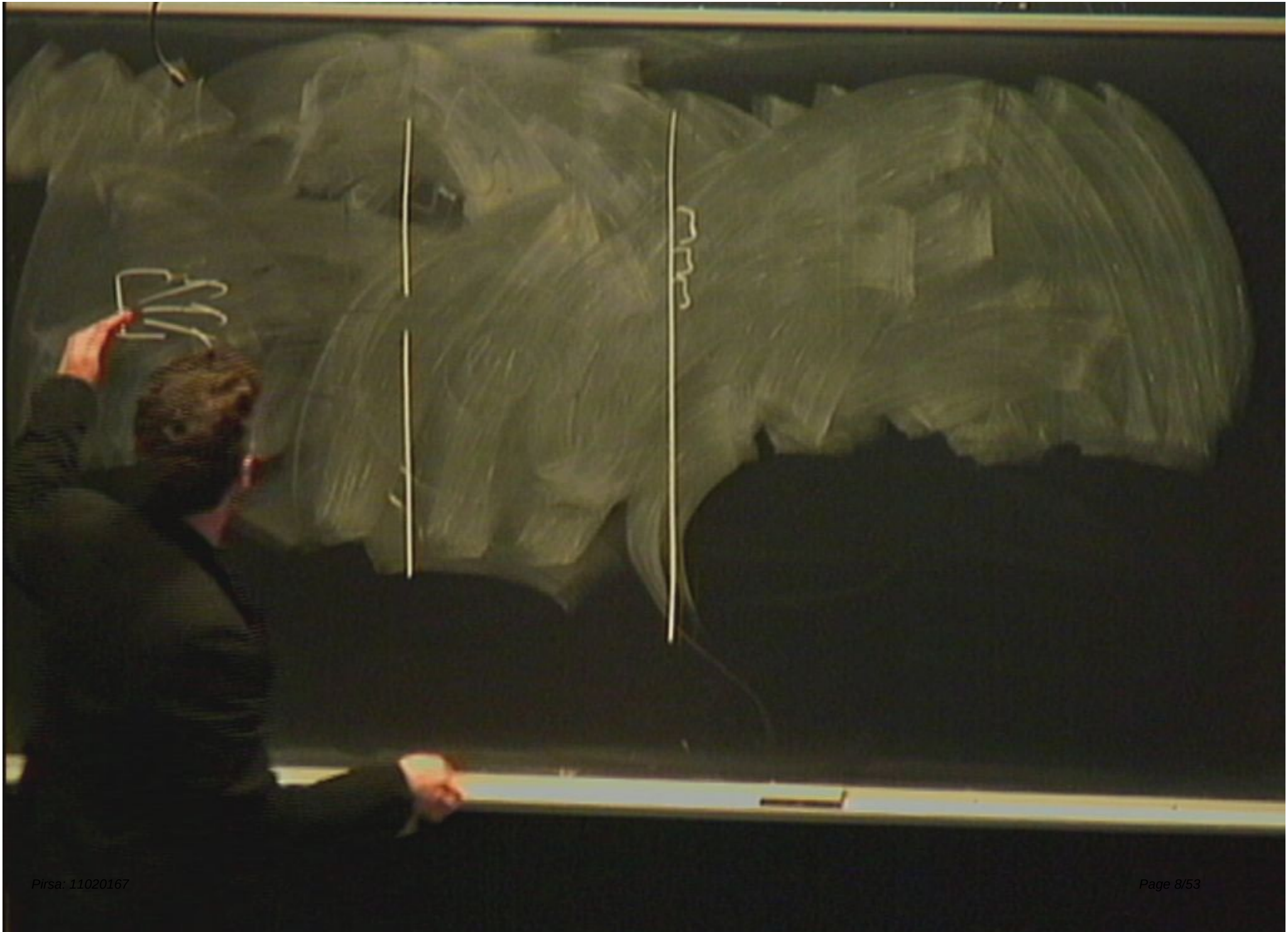
URL: http://www.pirsa.org/11020167

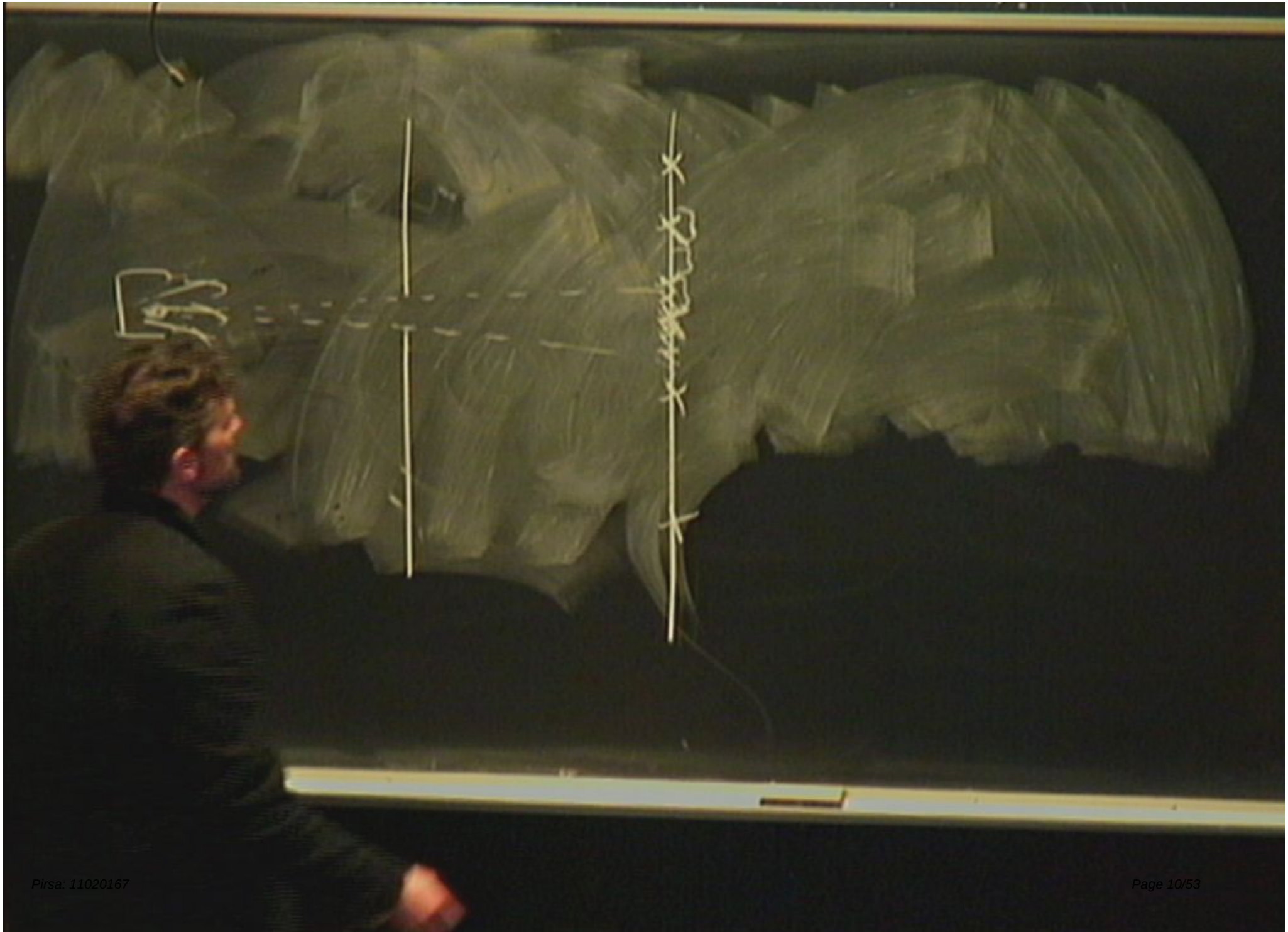
Abstract:

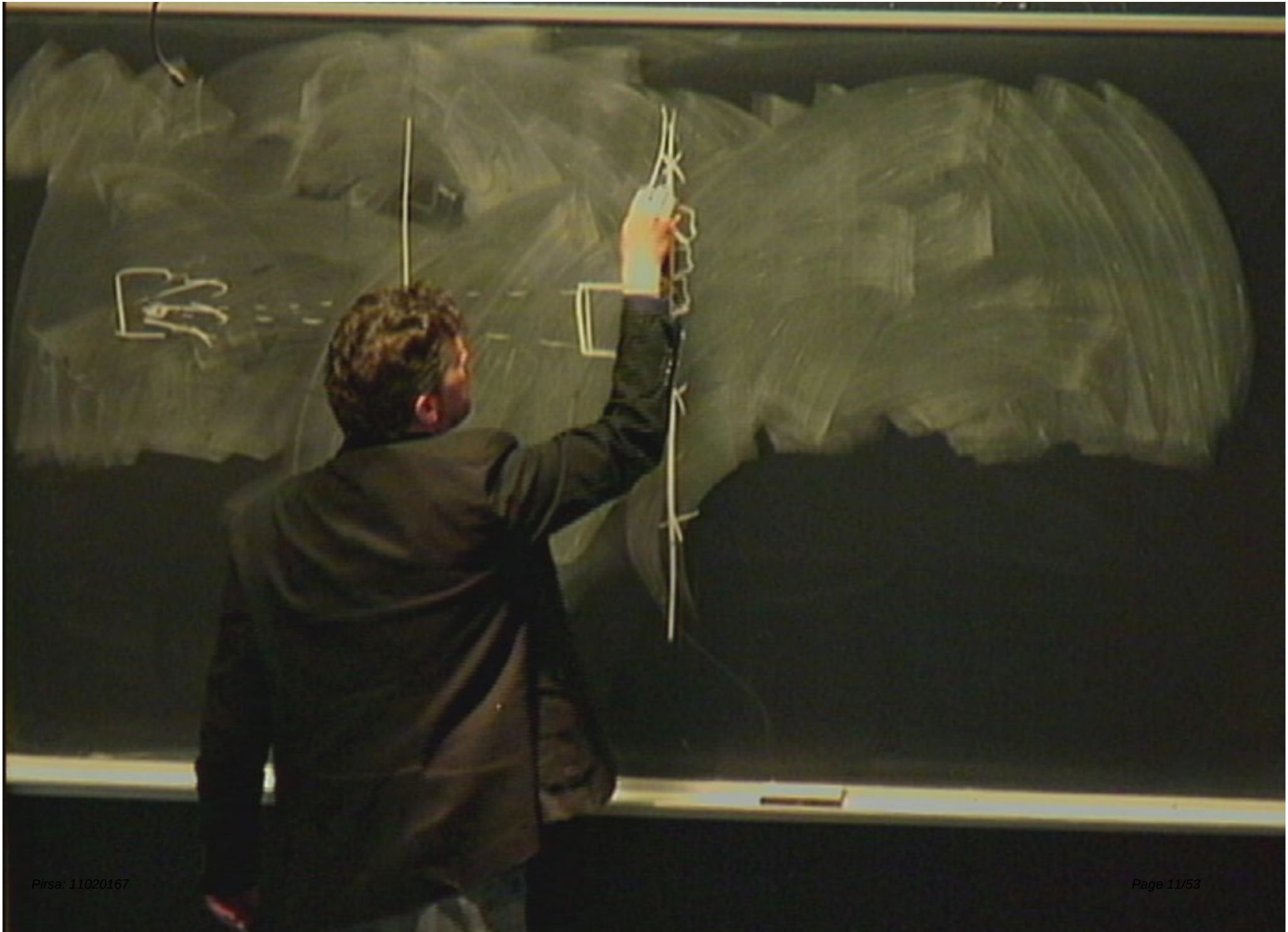


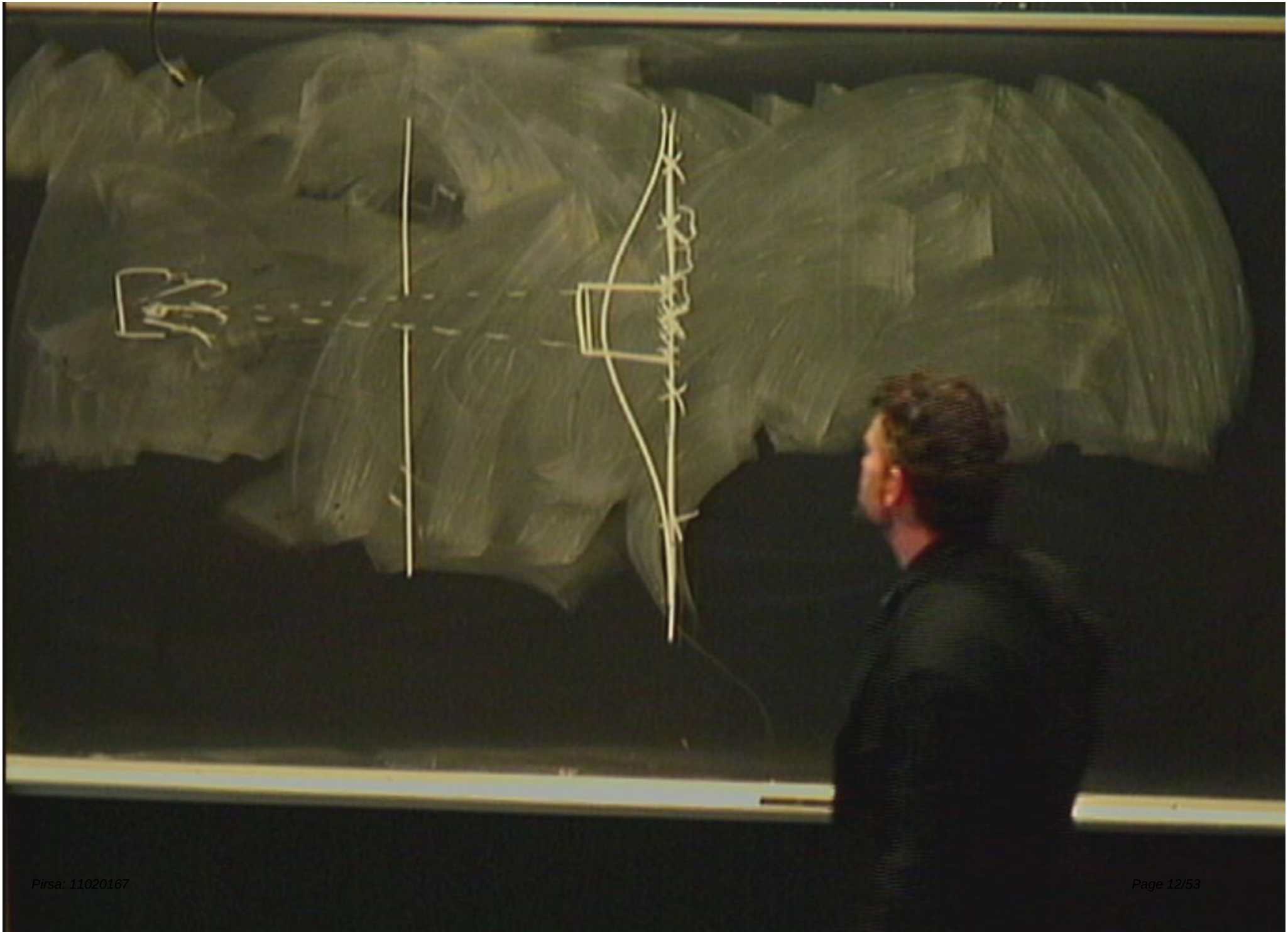


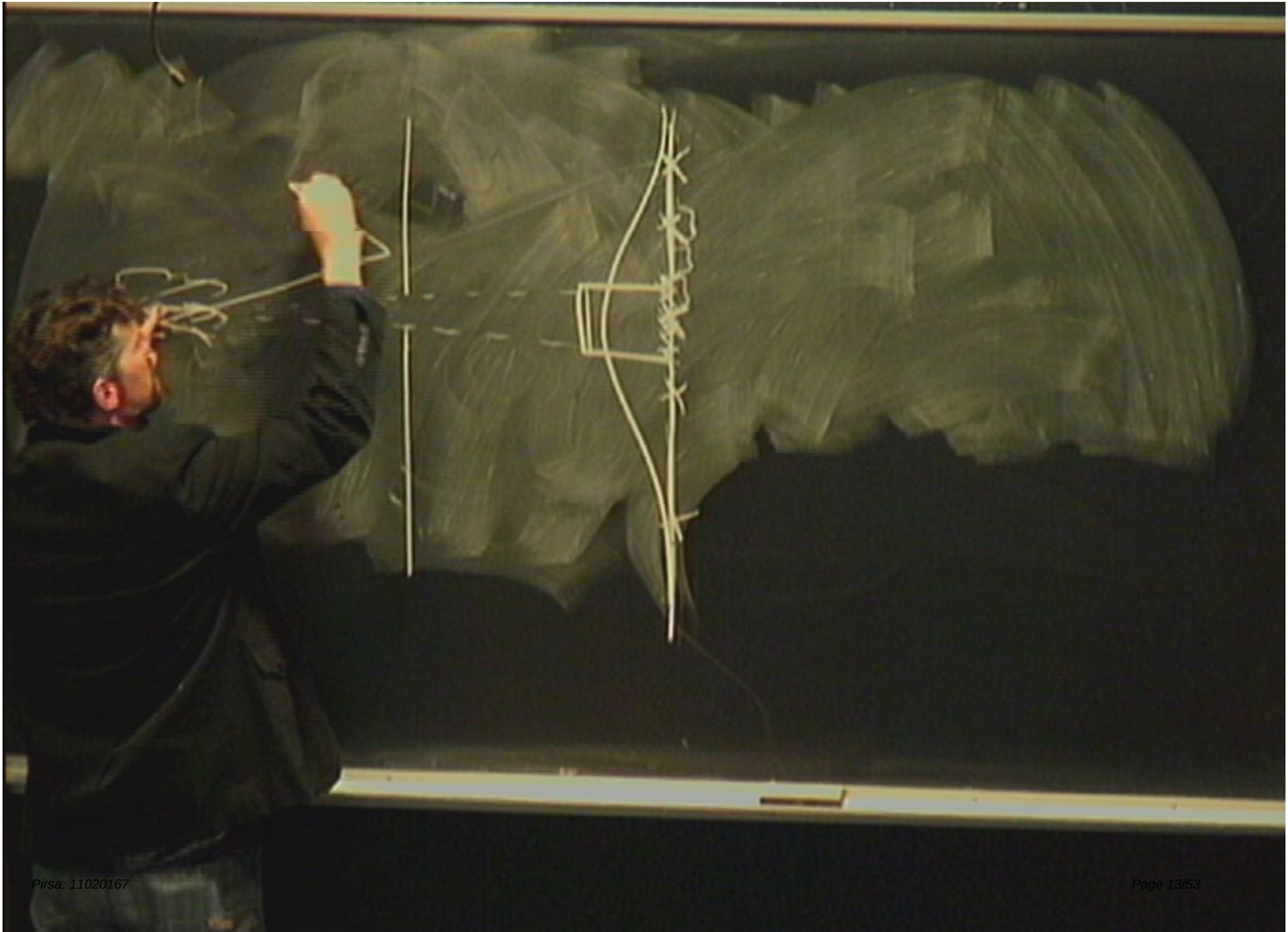


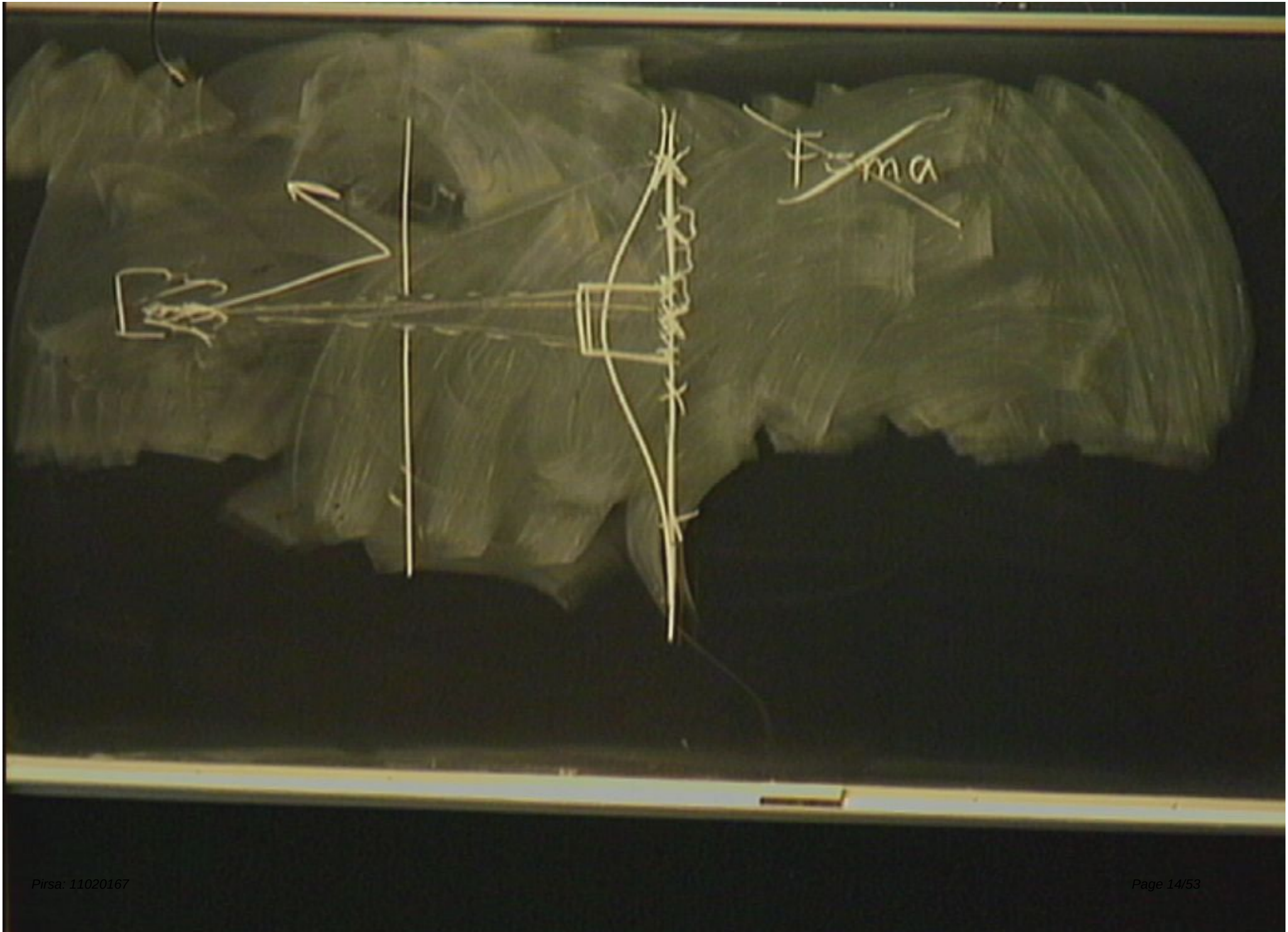








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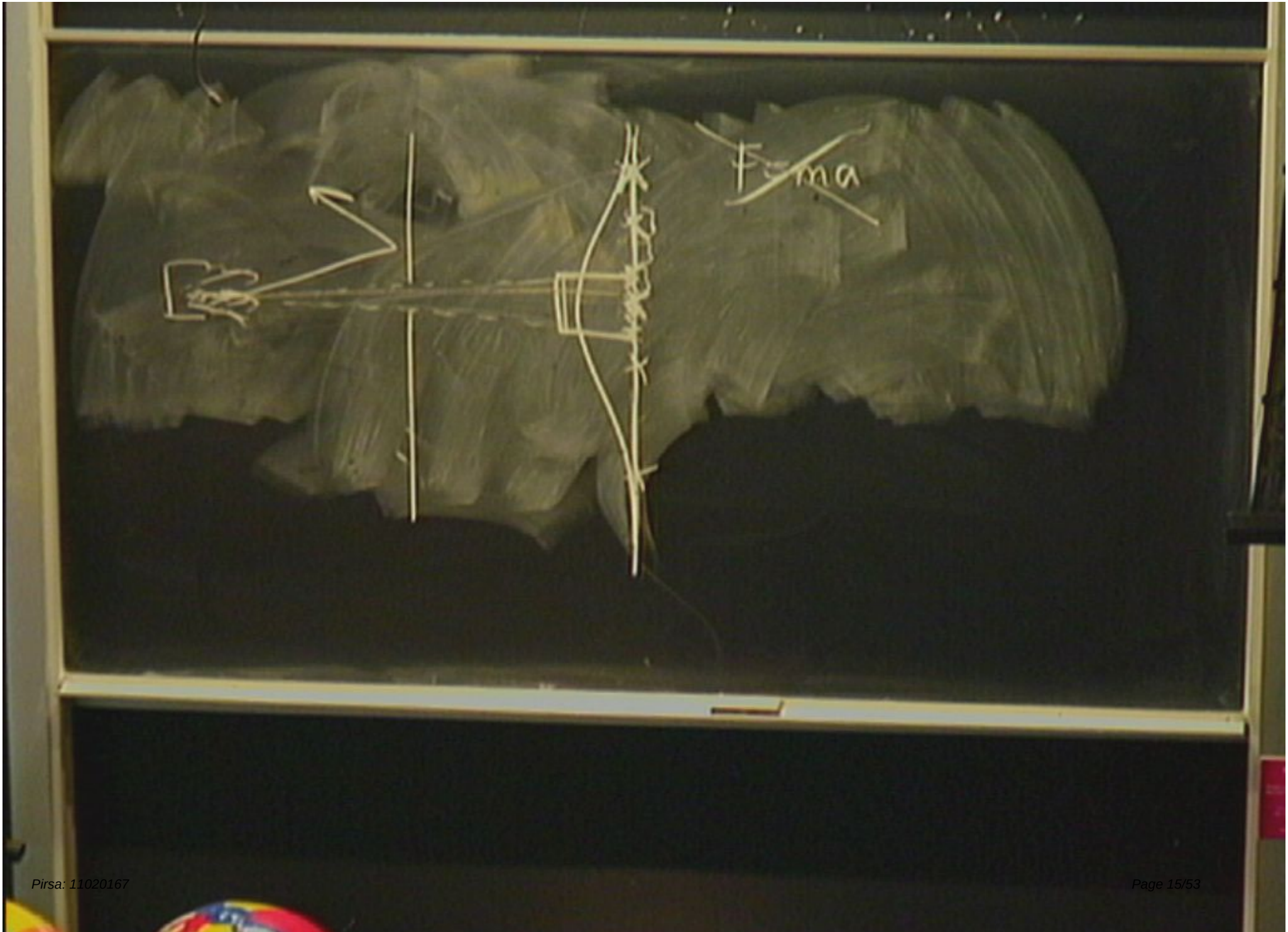
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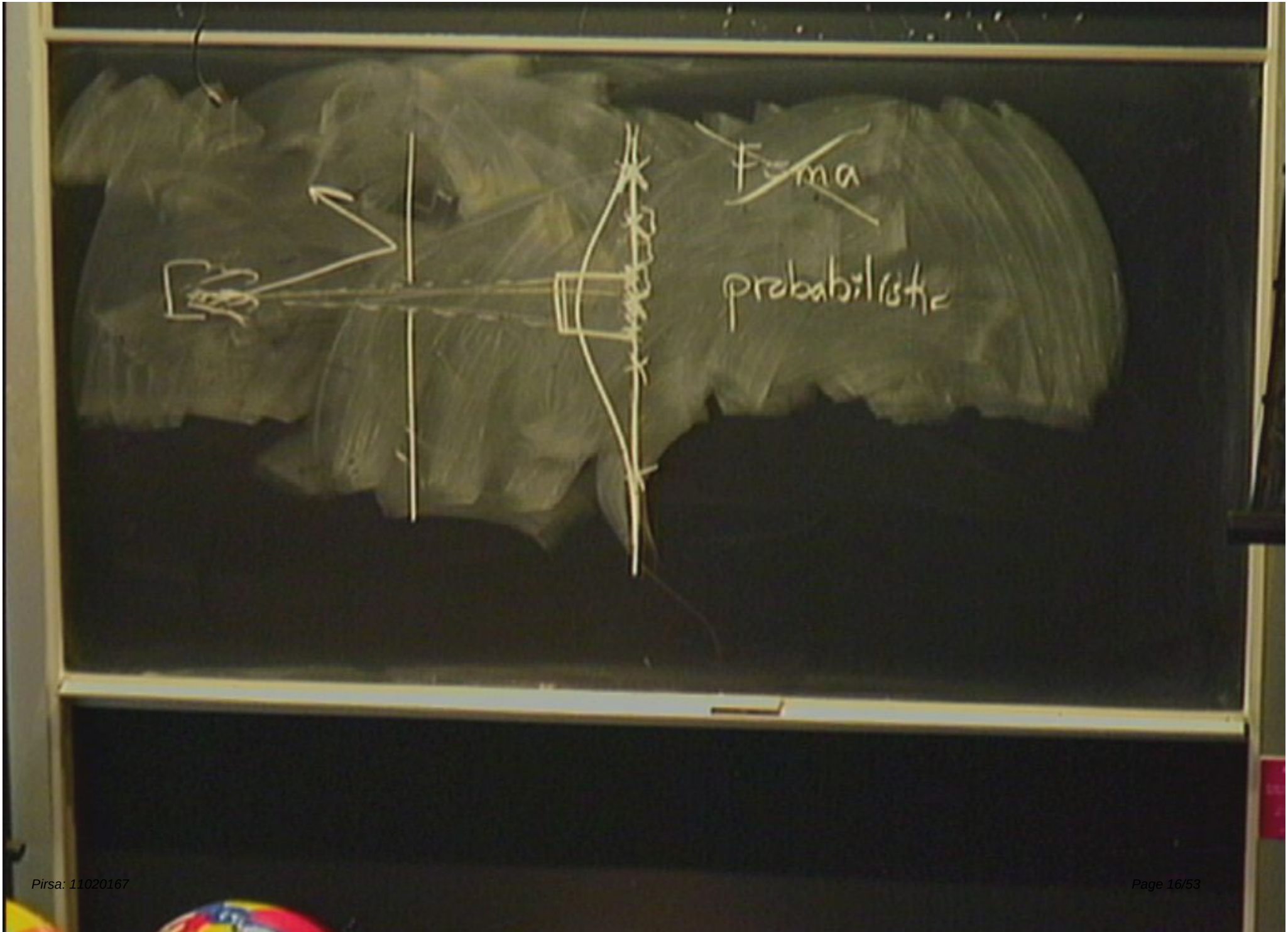
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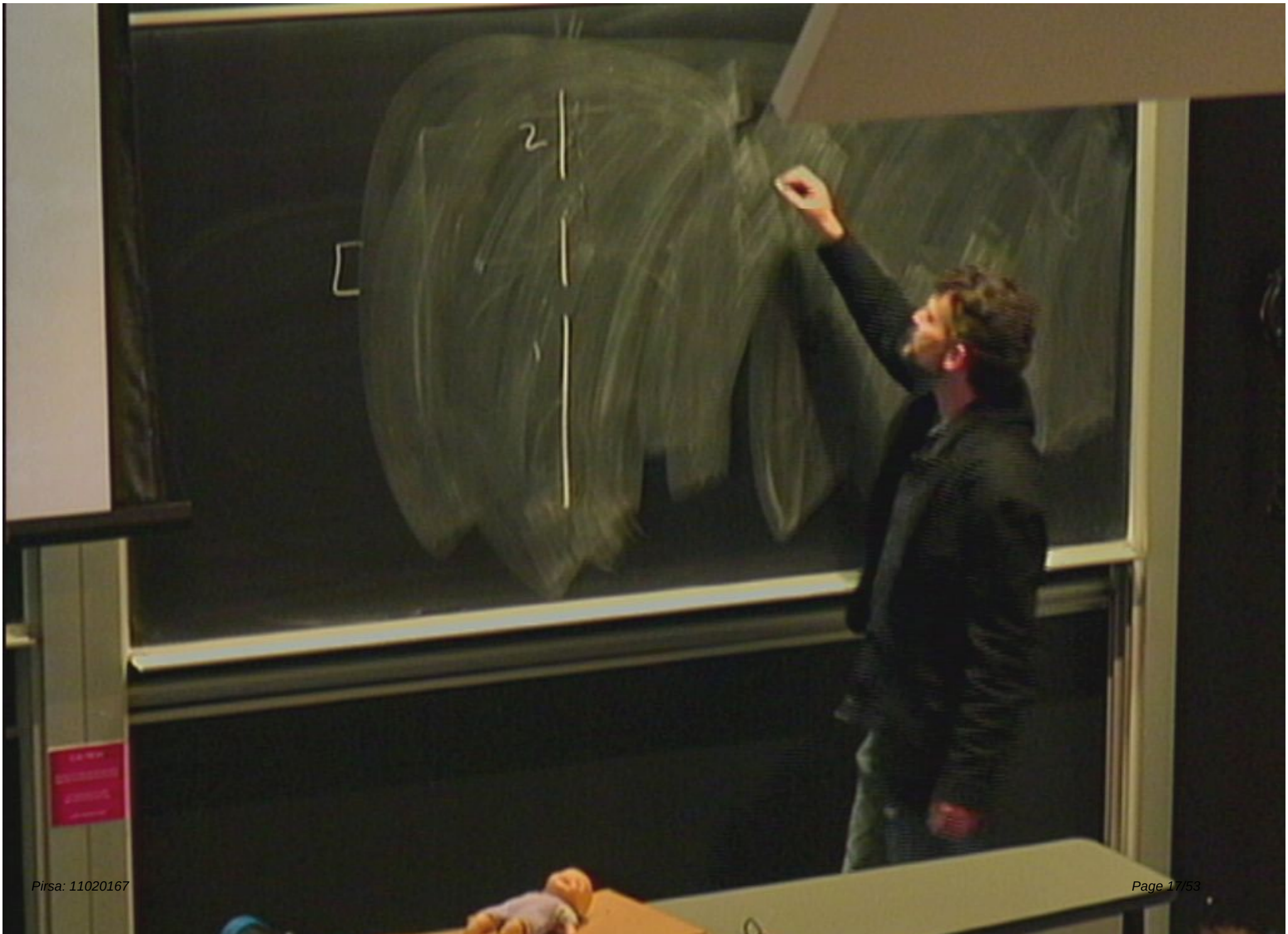
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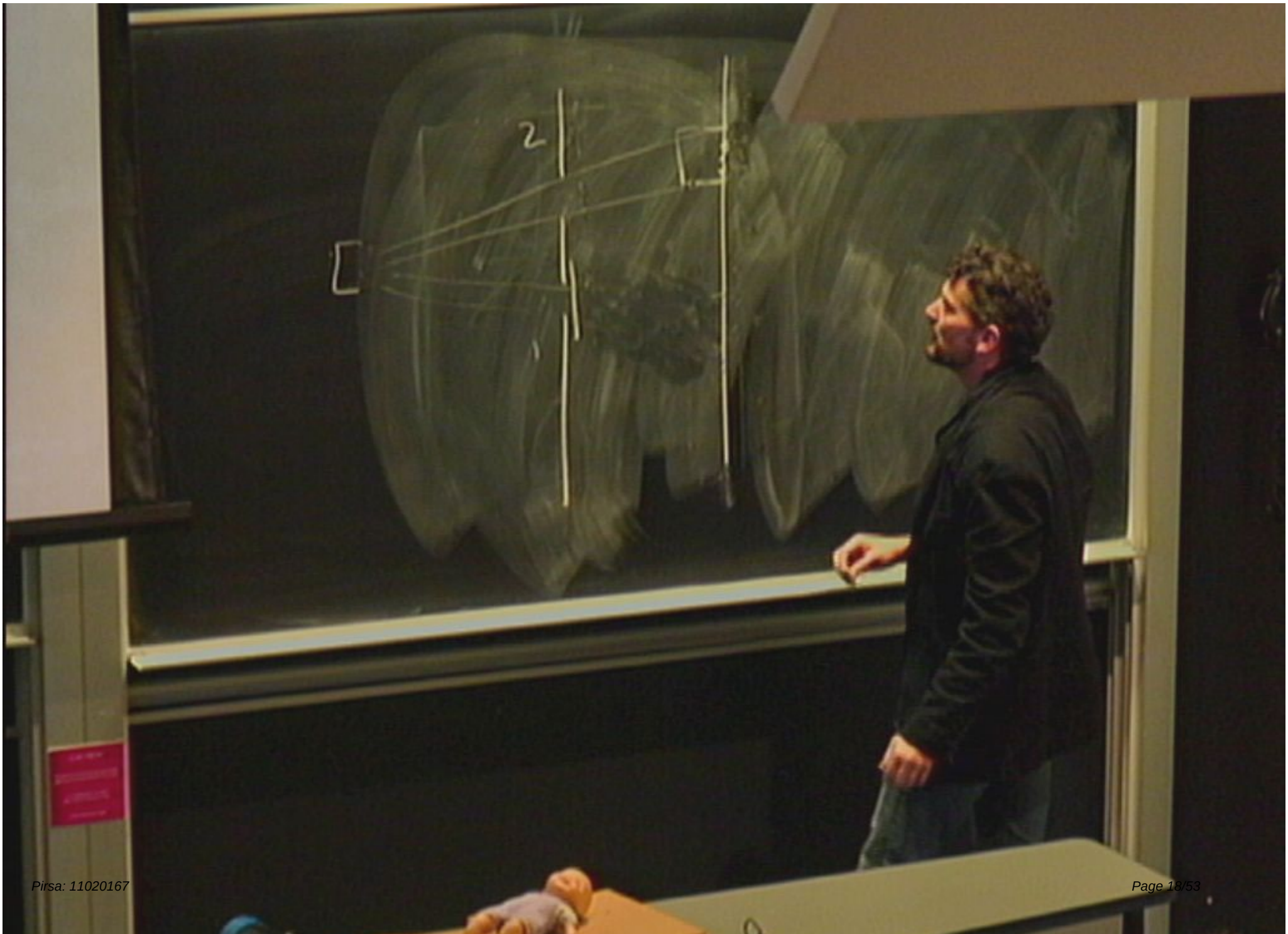
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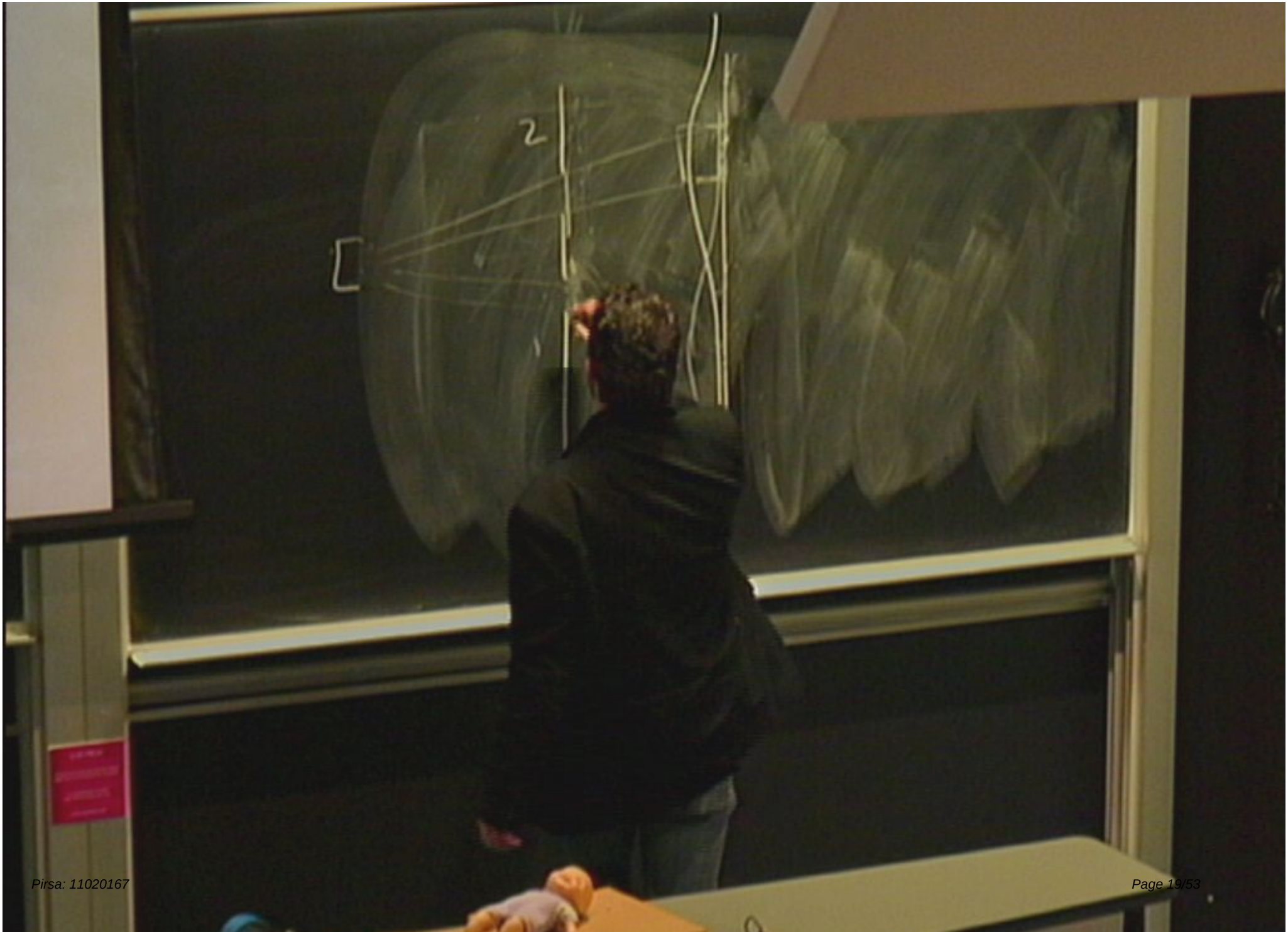
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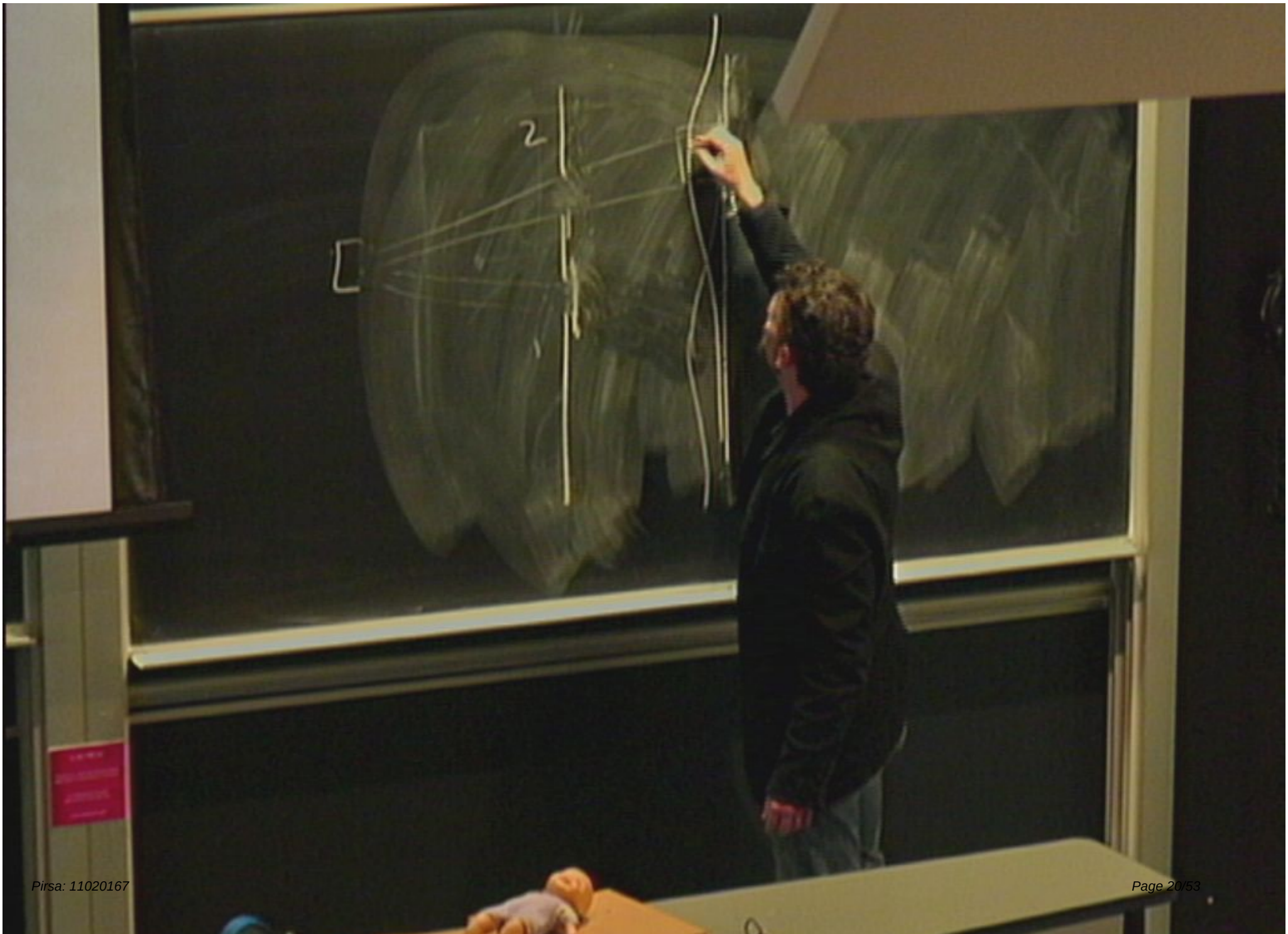
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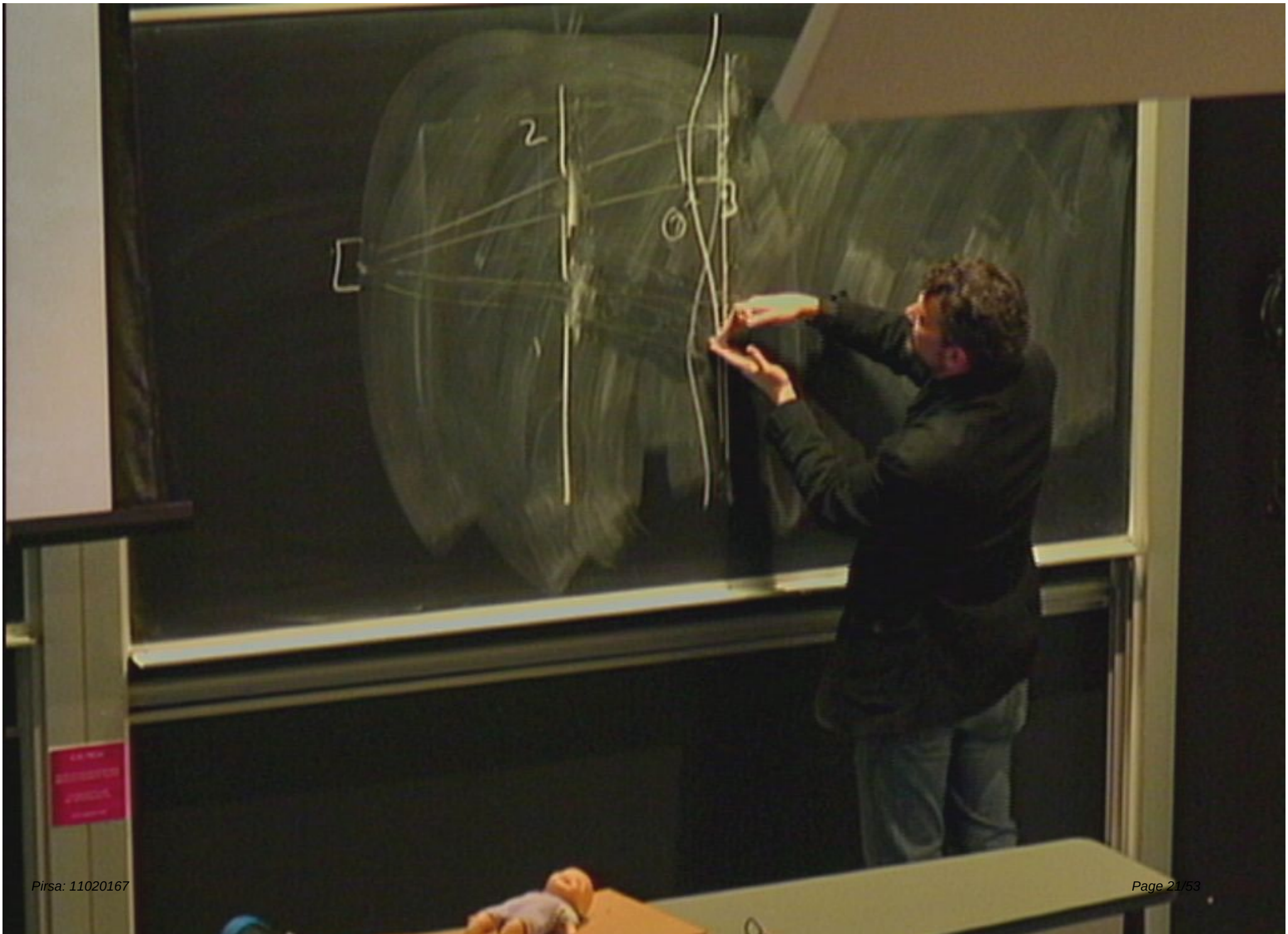
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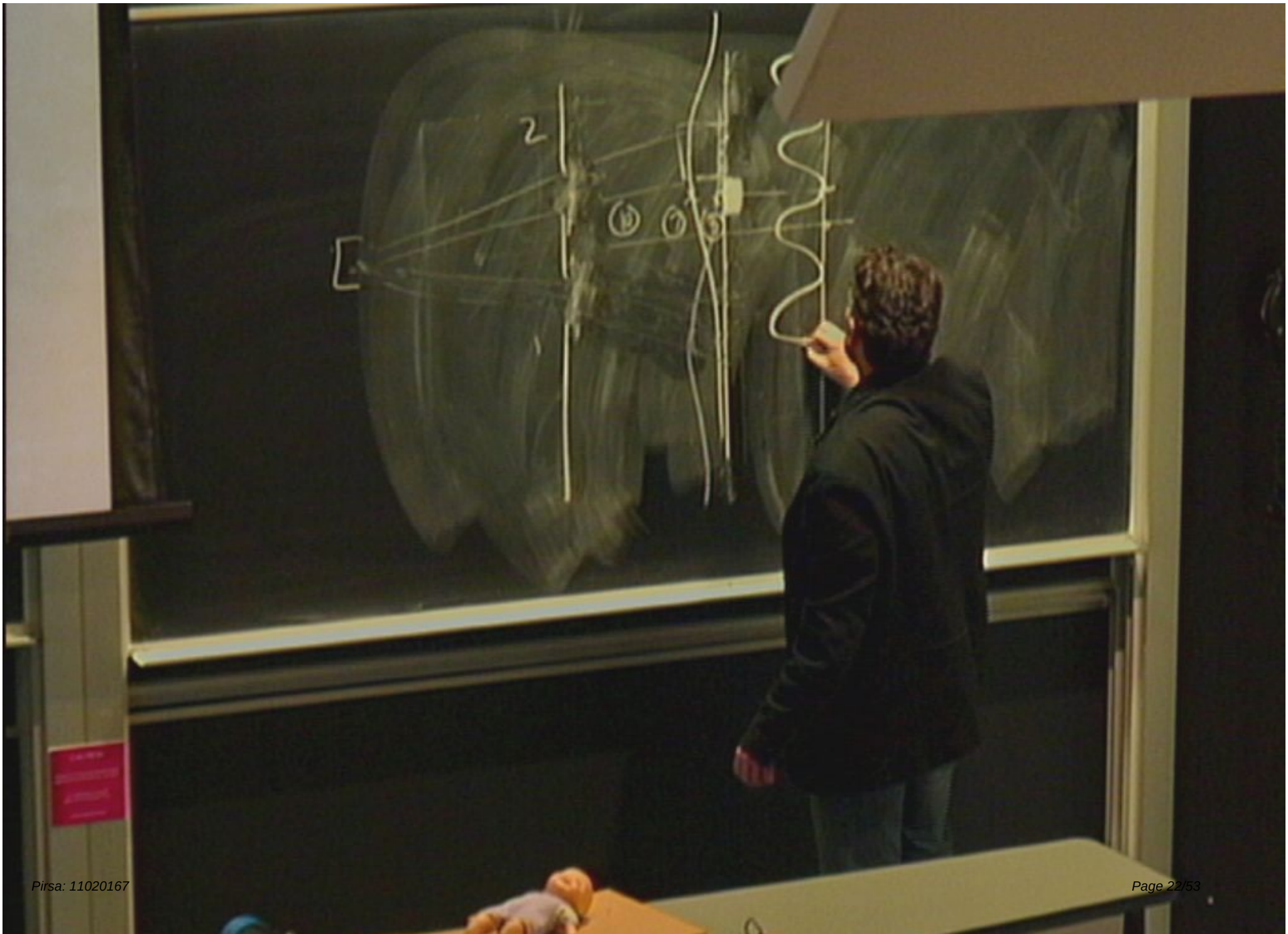
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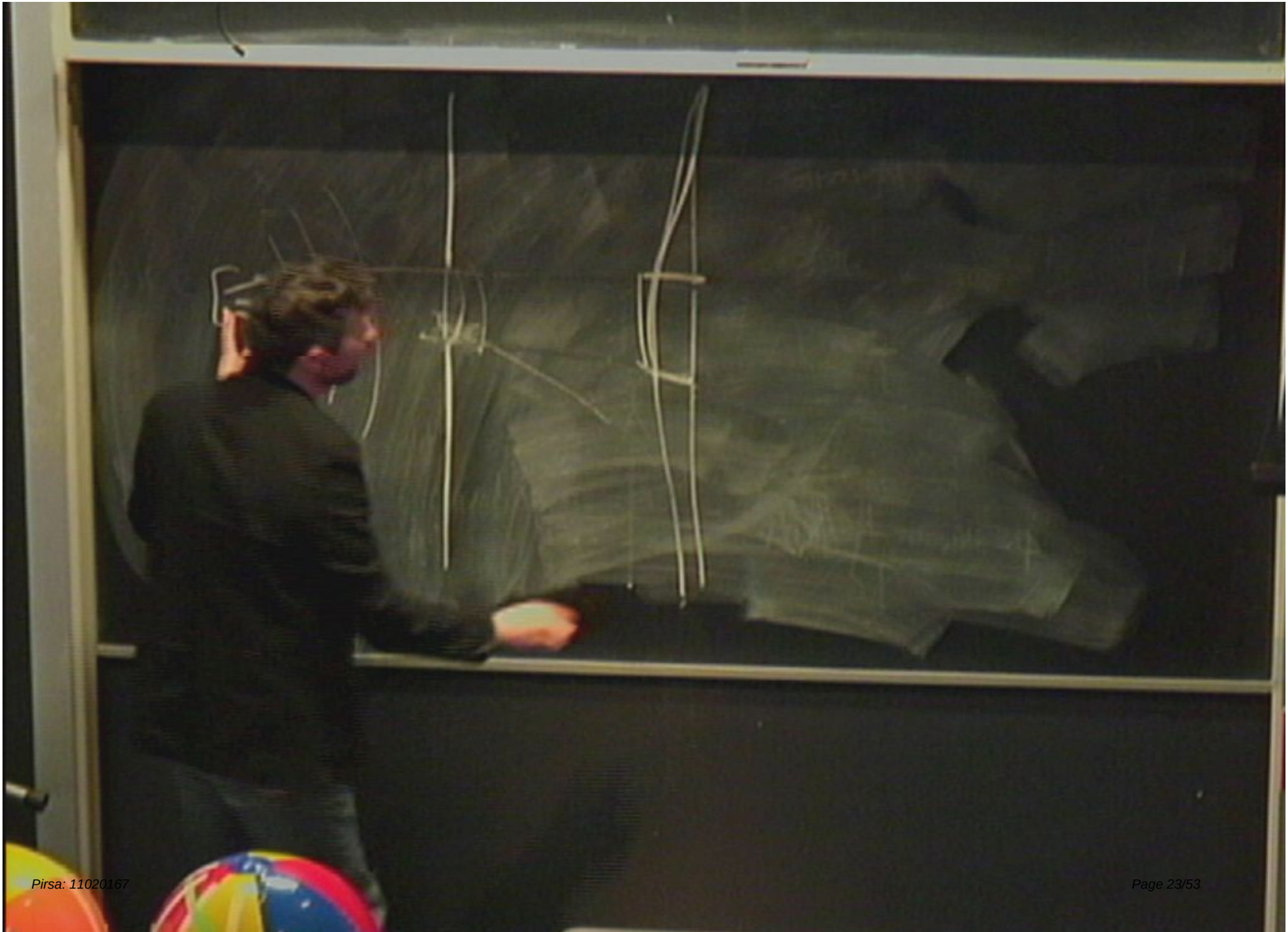
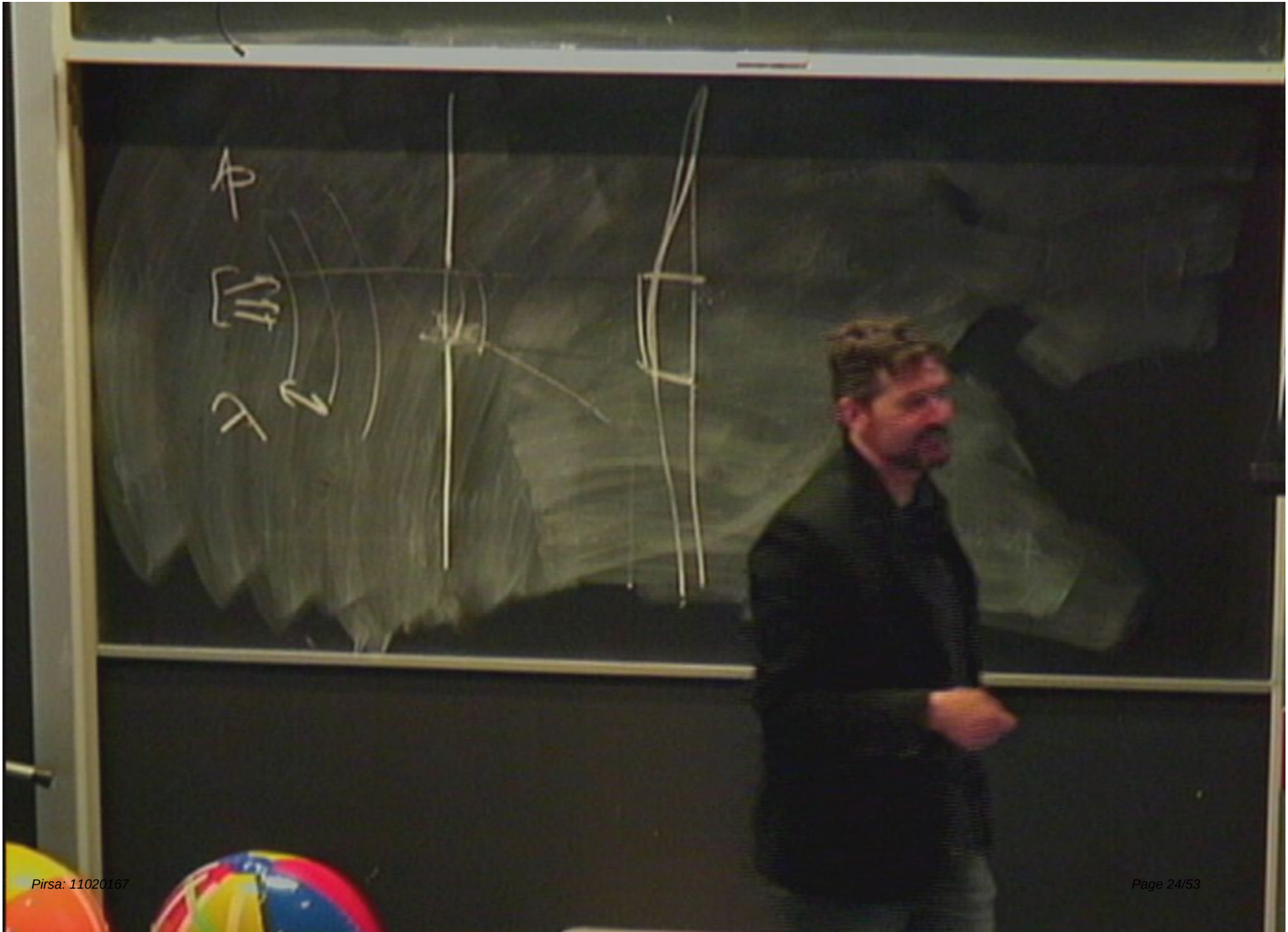
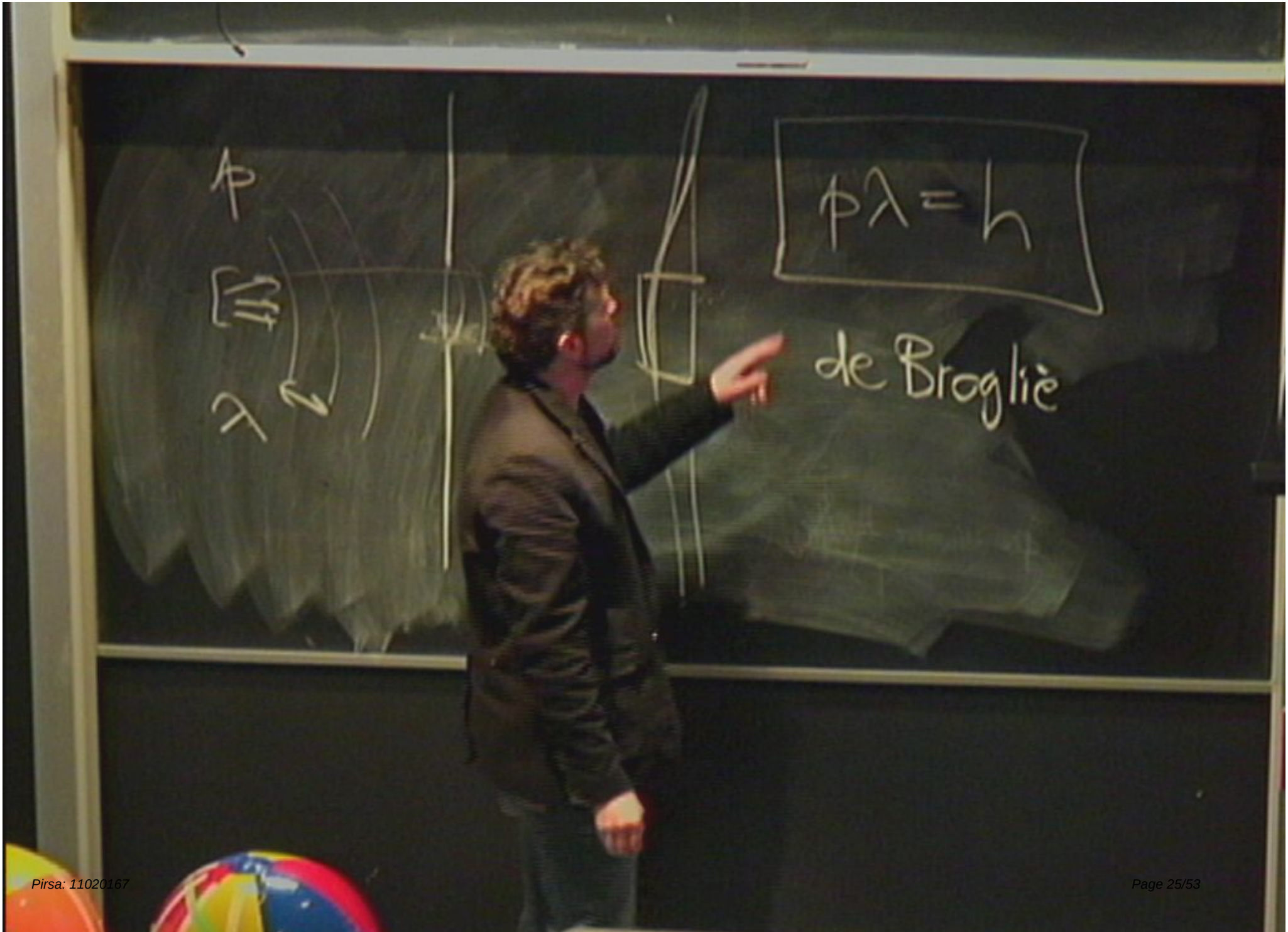
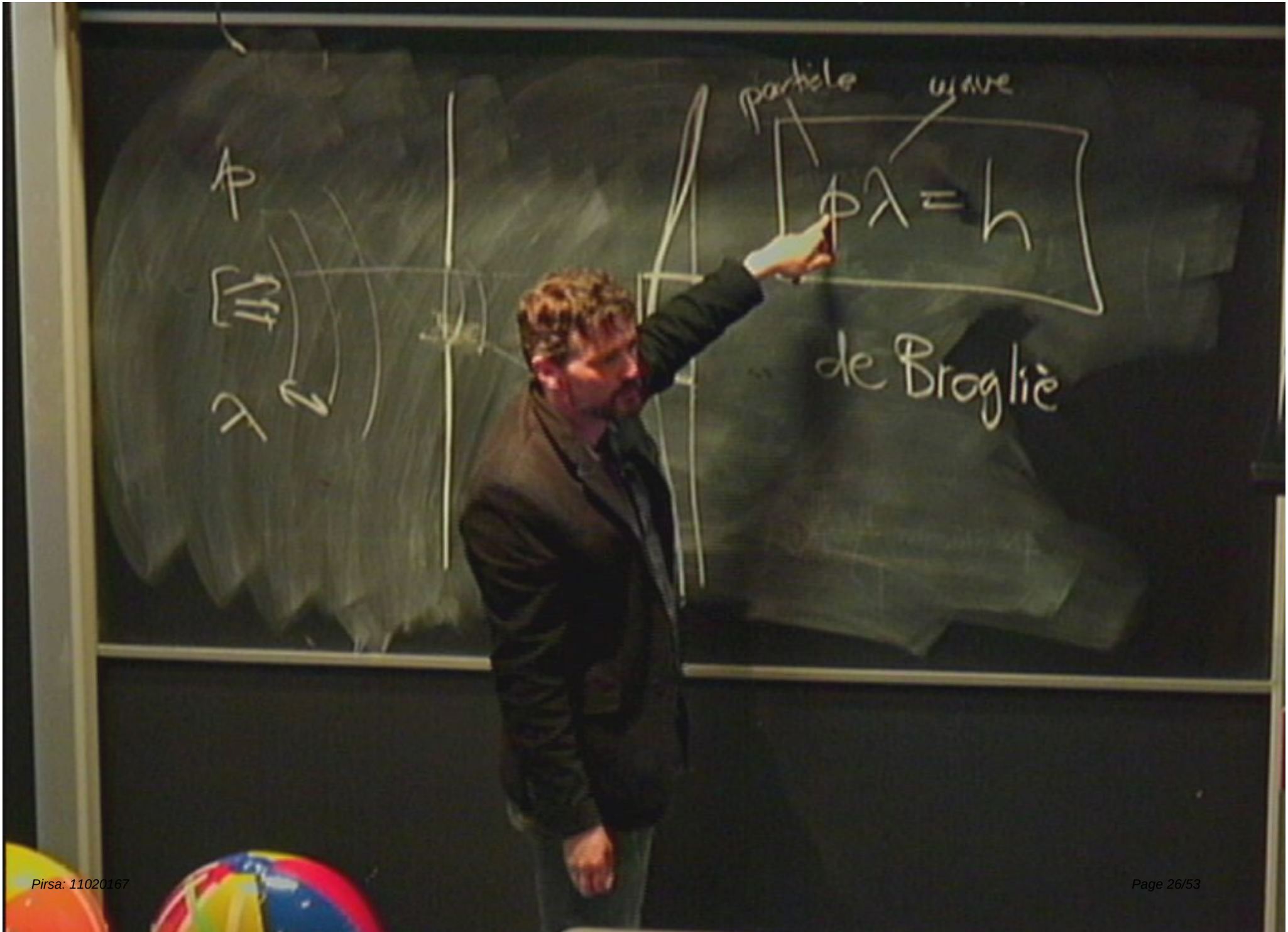
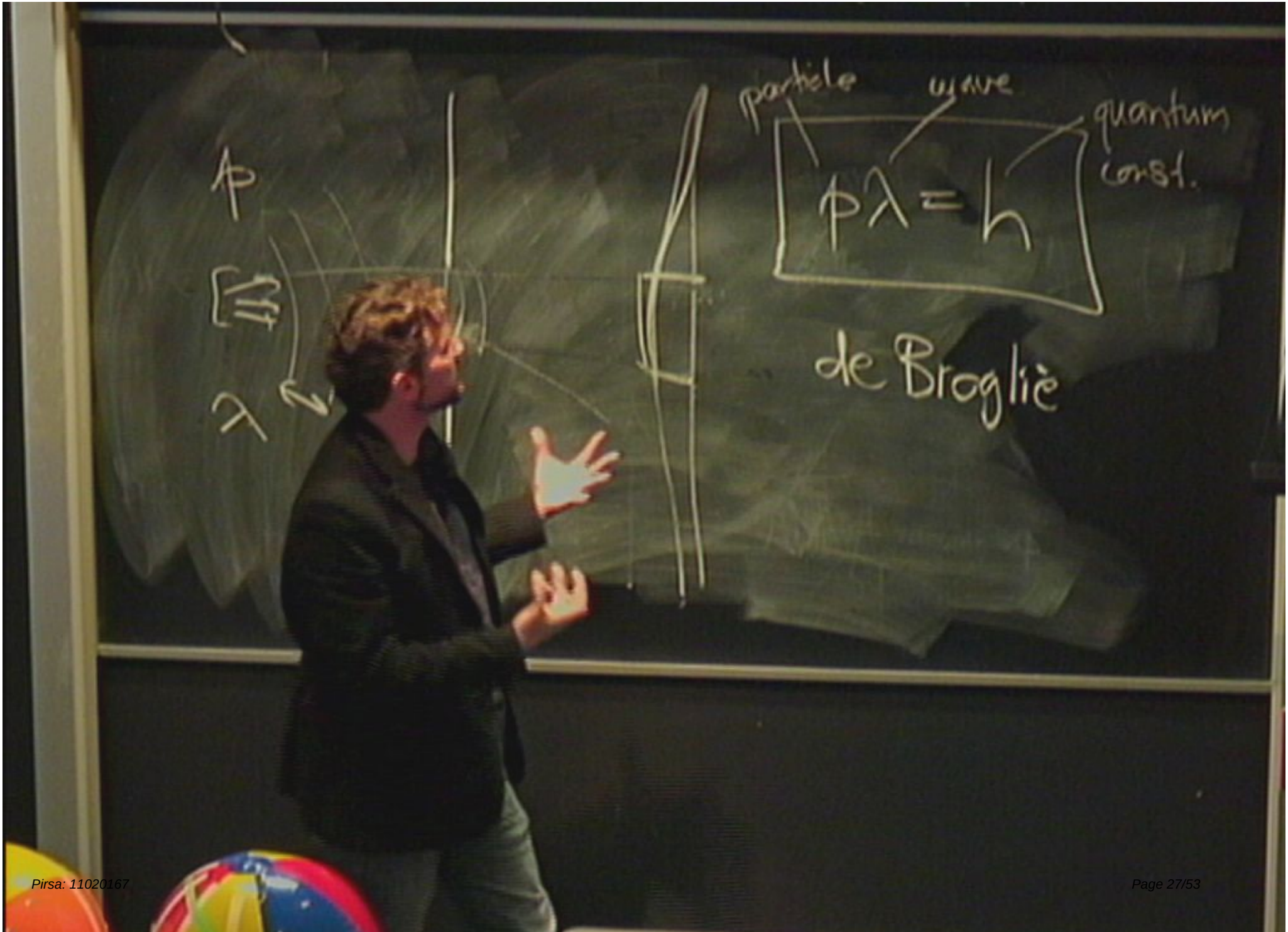
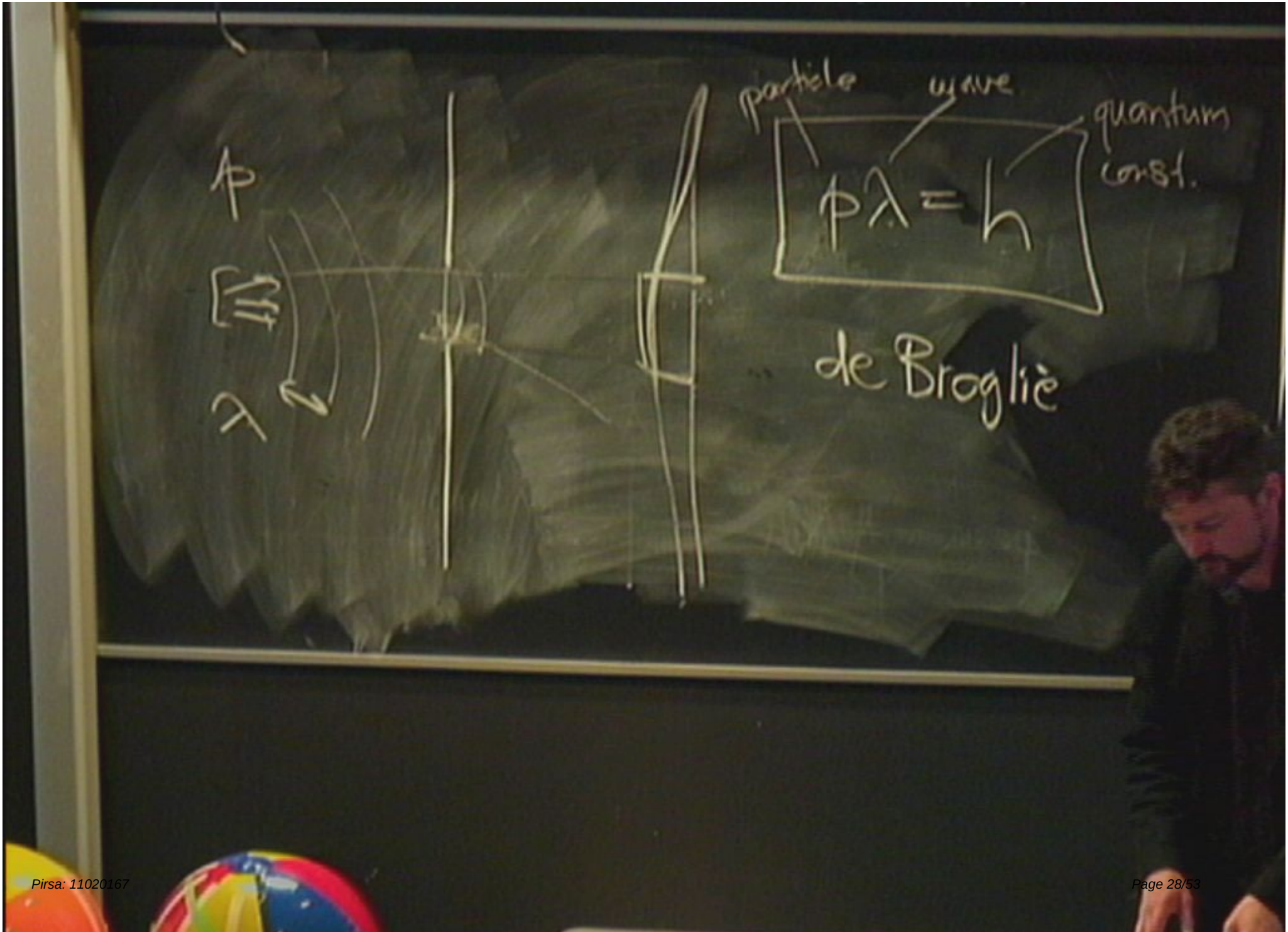


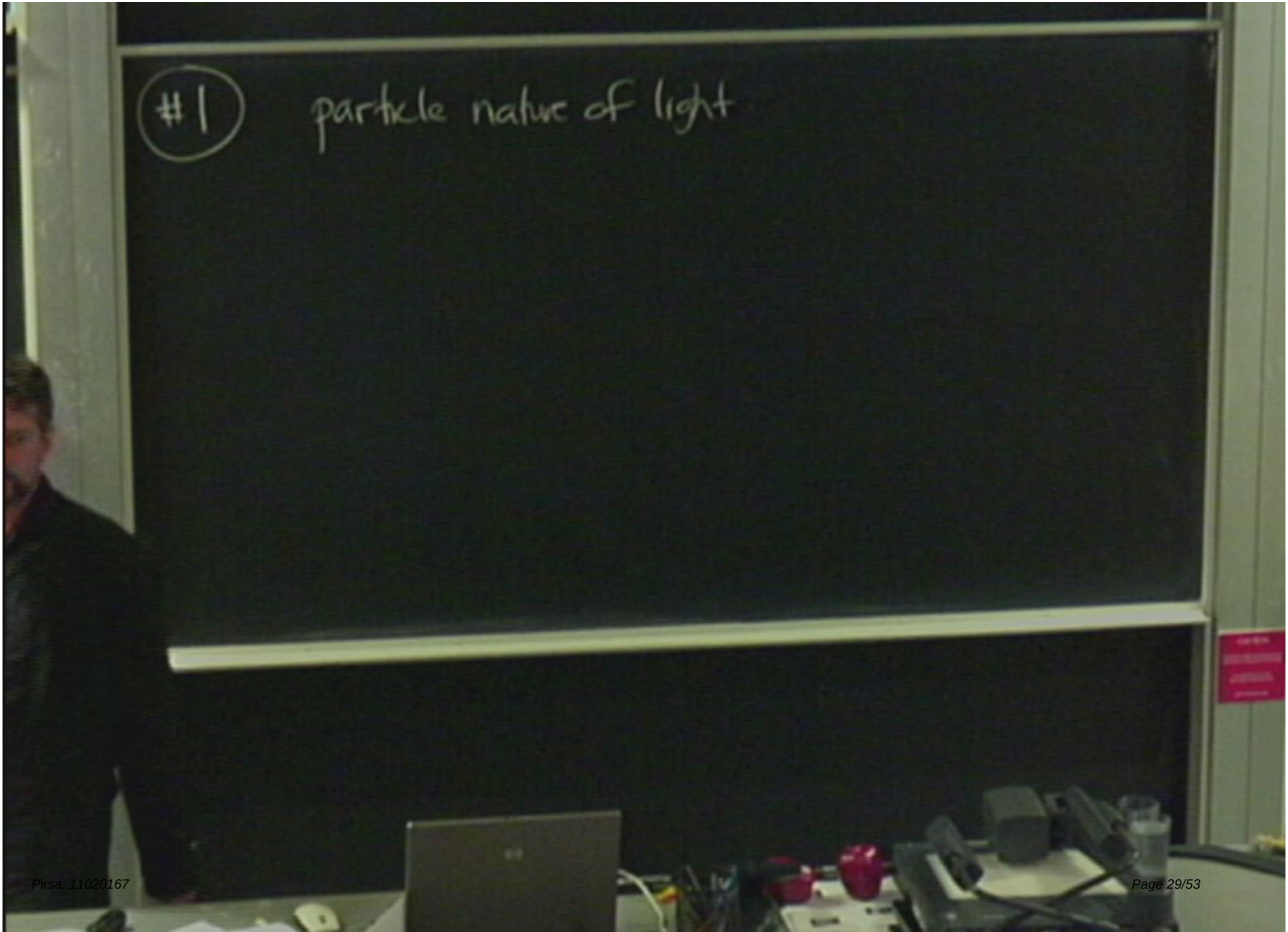


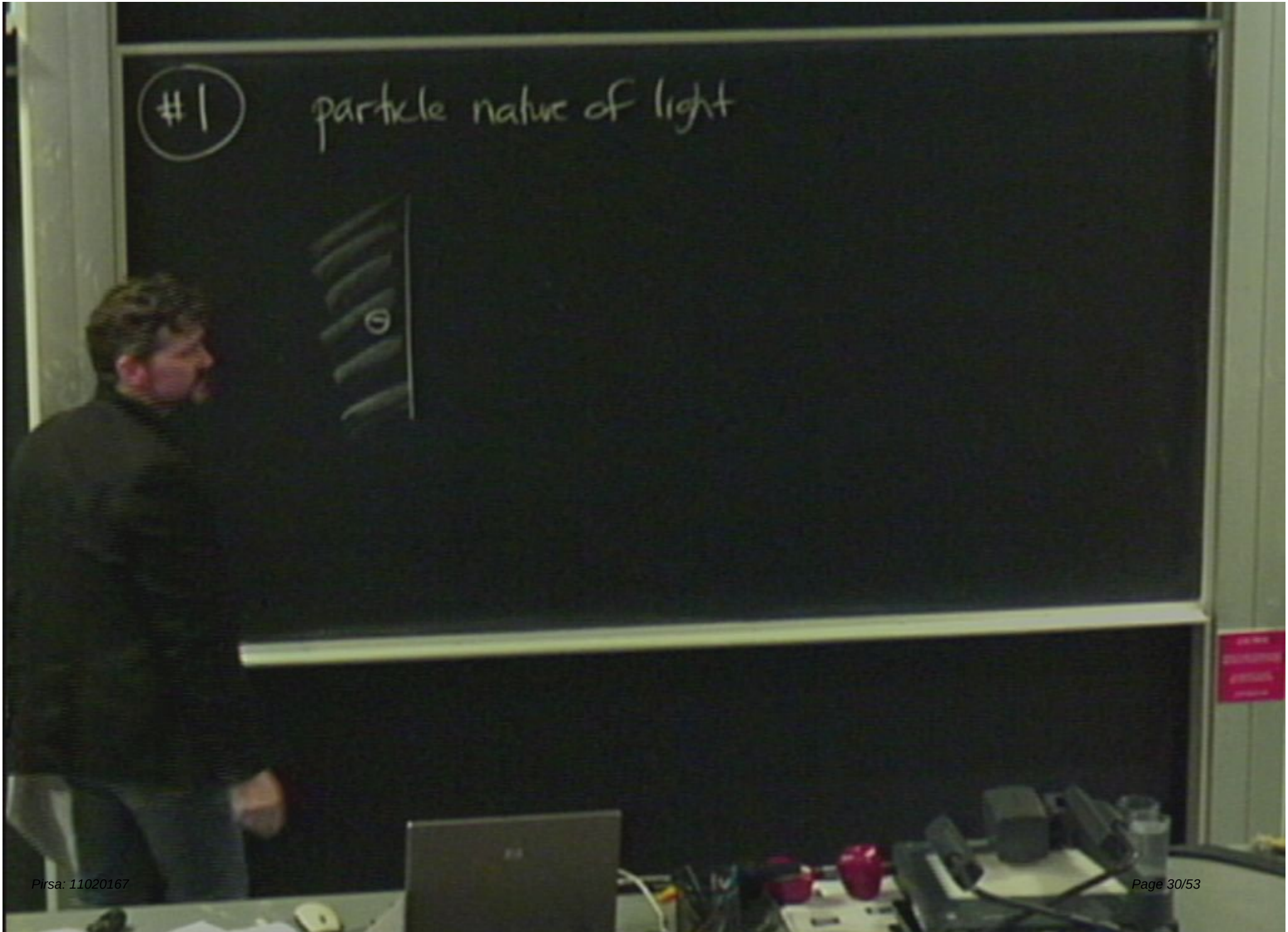

p
λ
pλ = h
de Broglie

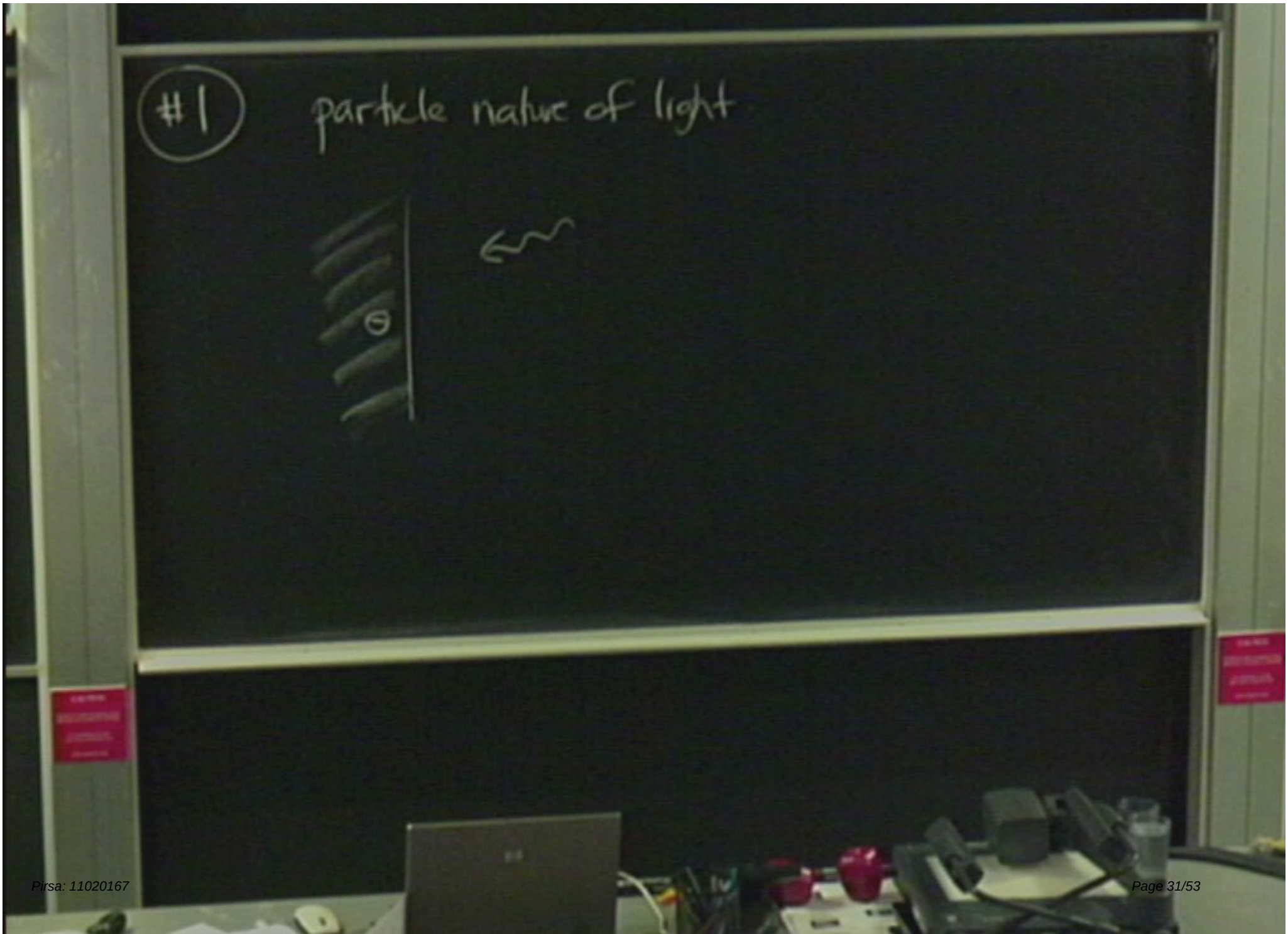

particle
wave
pλ = h
de Broglie

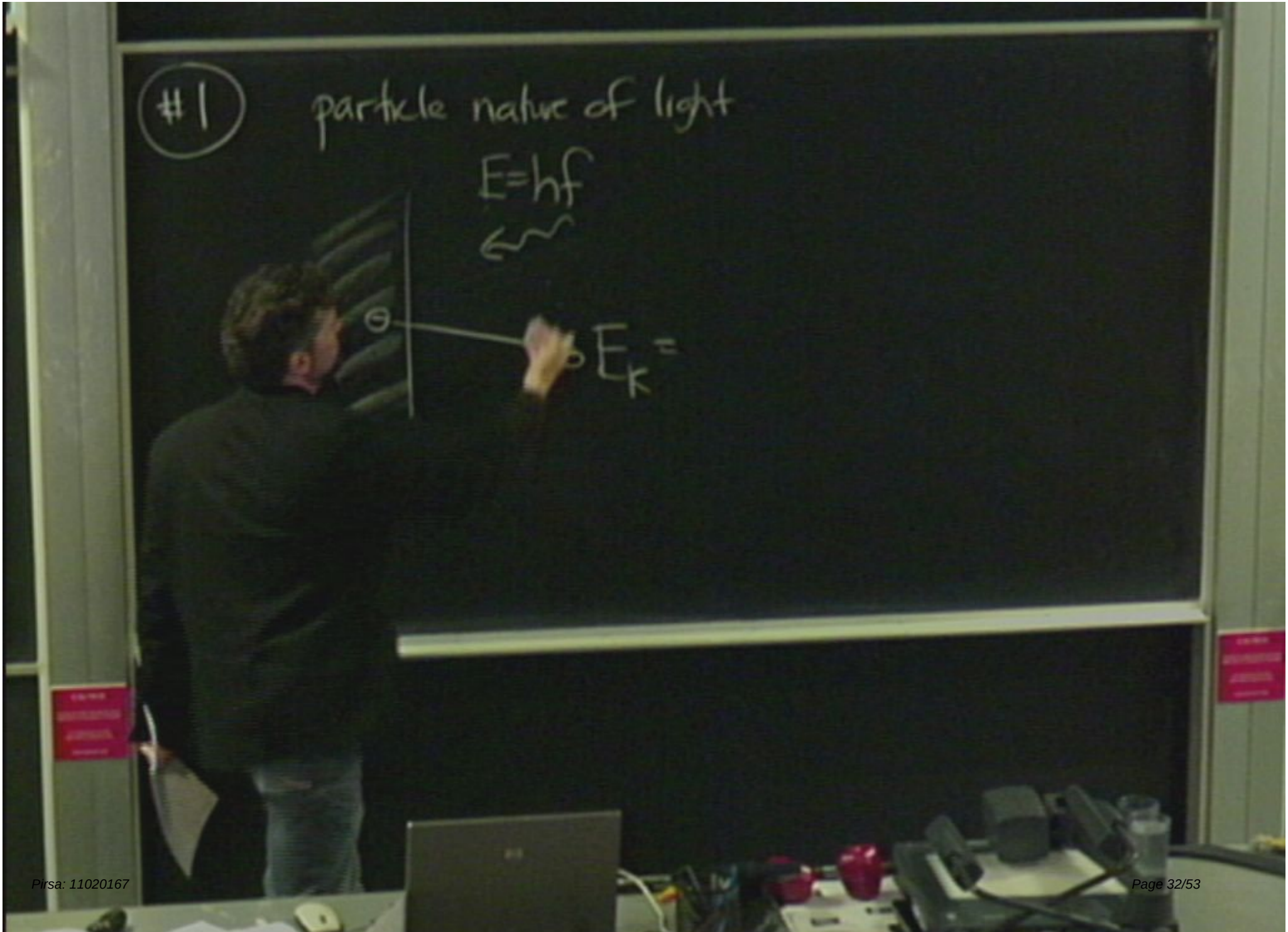

particle
wave
quantum
const.
pλ = h
de Broglie

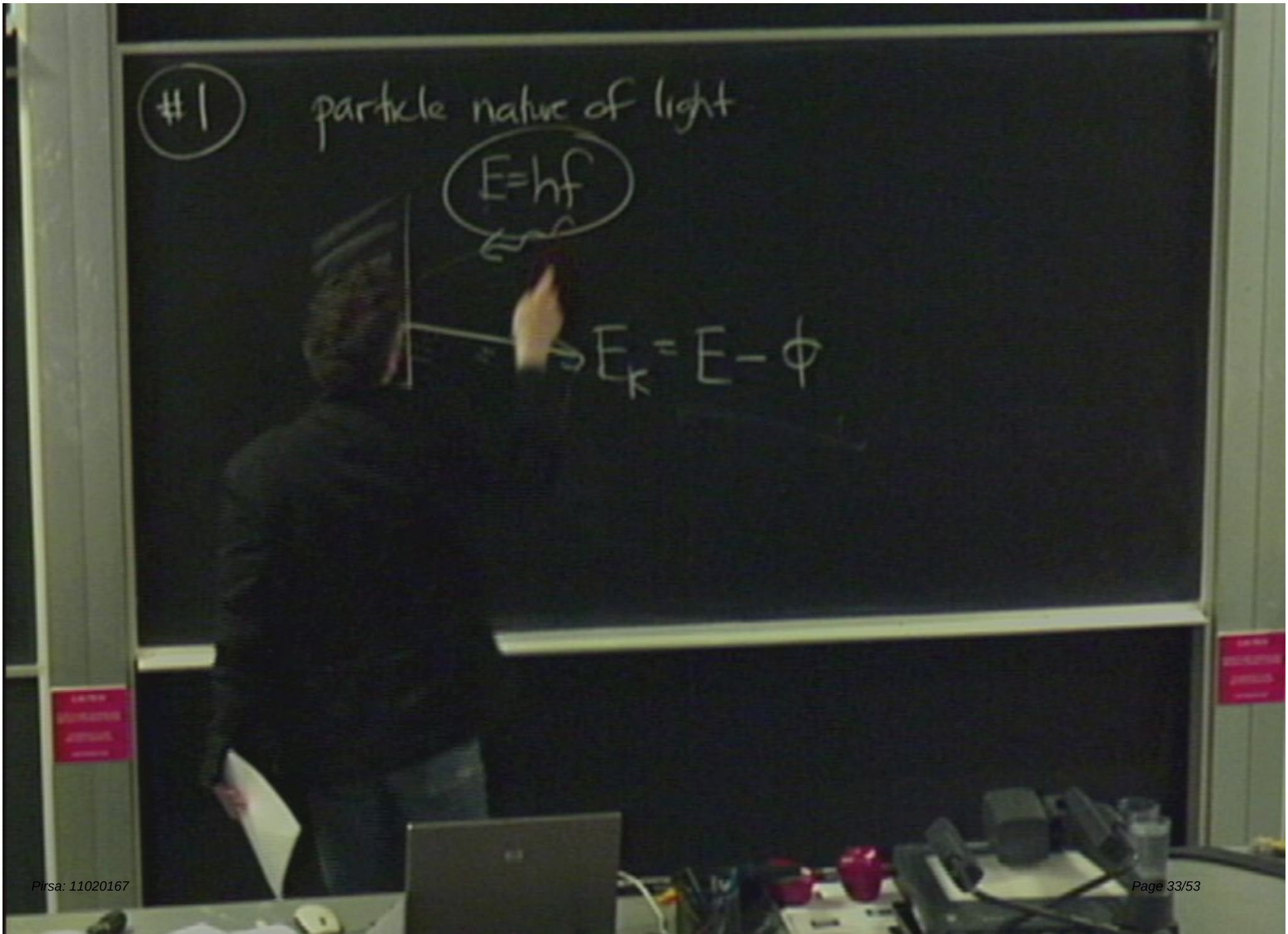

p
λ
particle
wave
quantum
const.
pλ = h
de Broglie

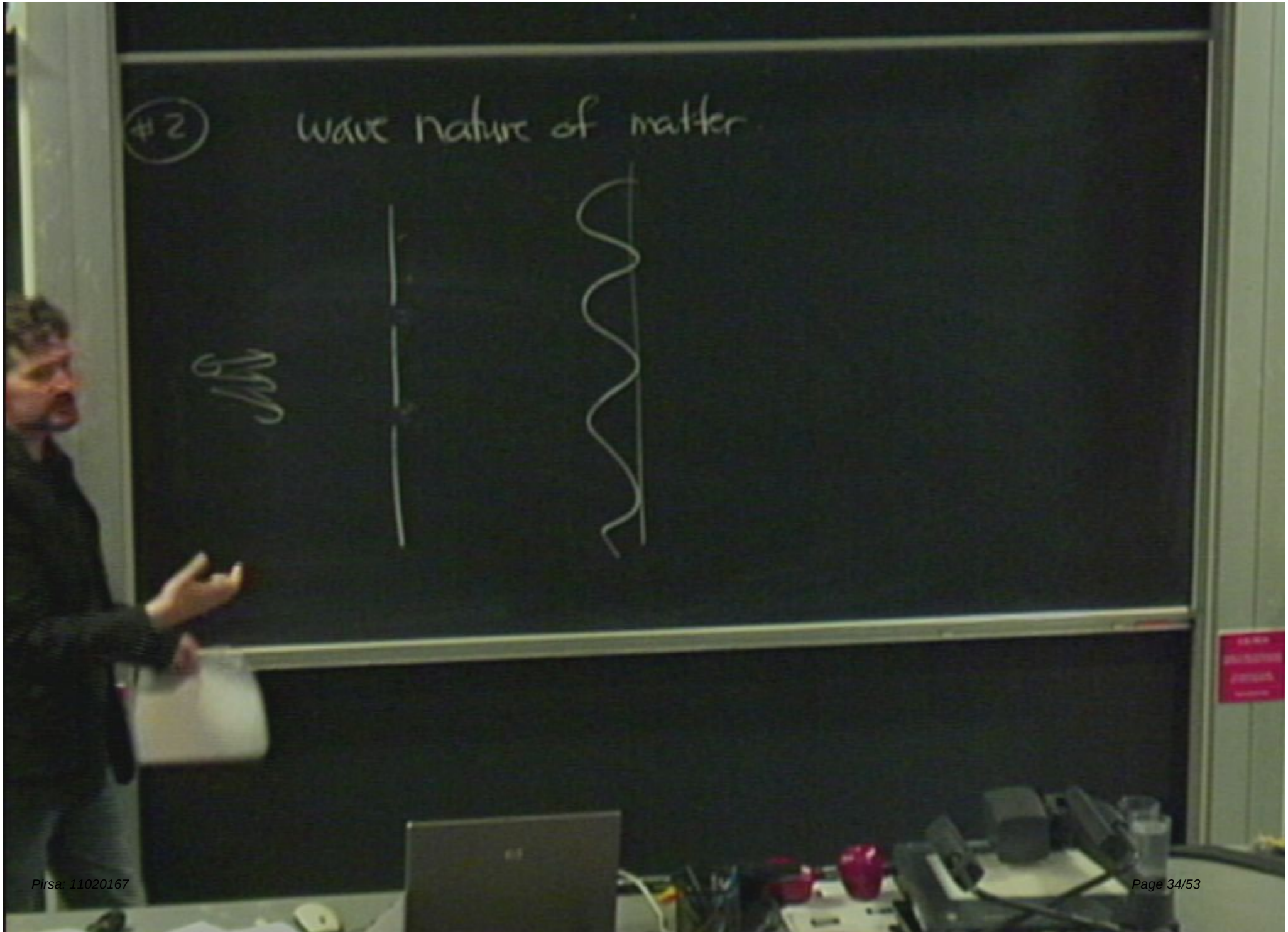

#1
particle nature of light

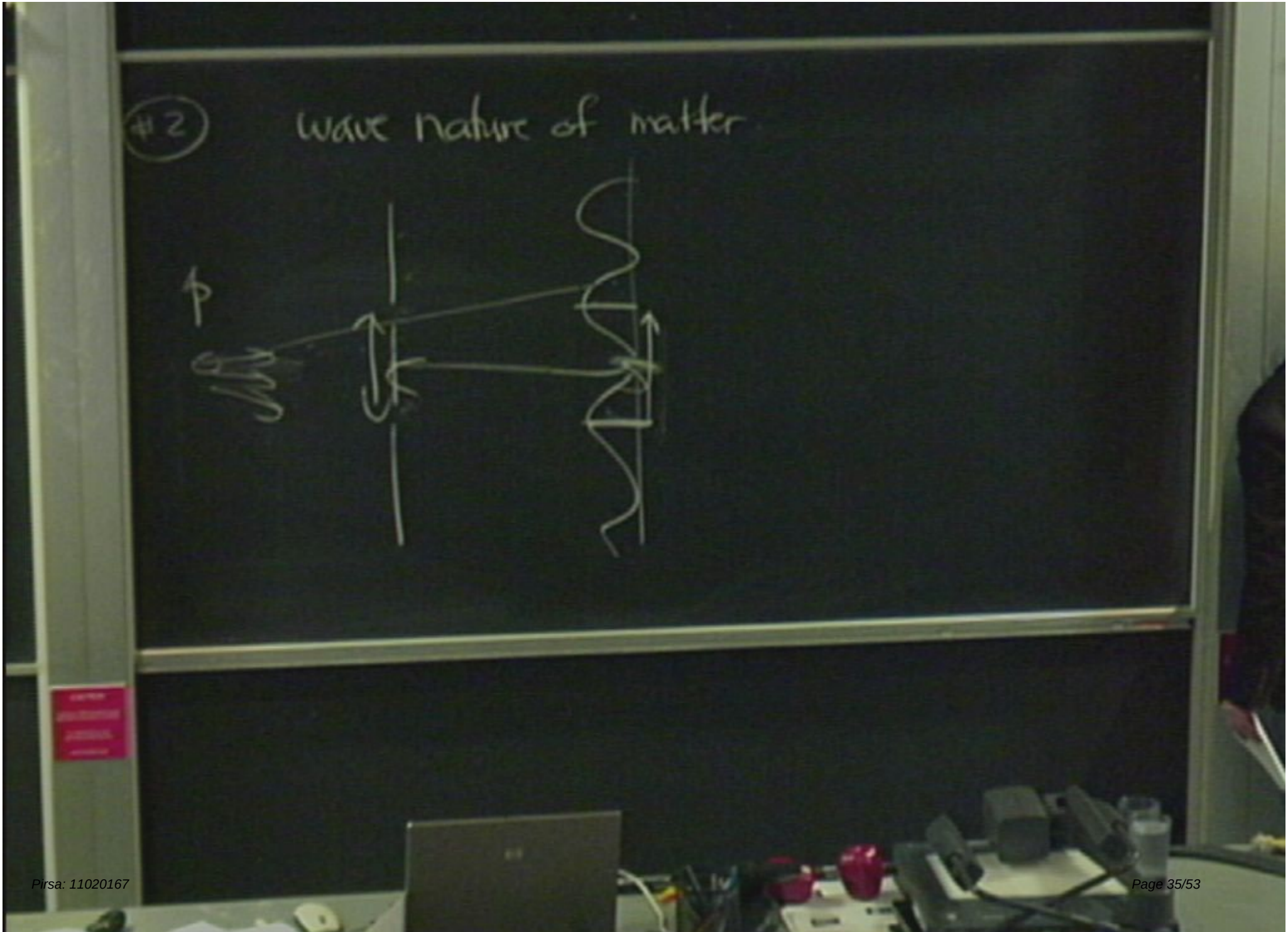

#1
particle nature of light
θ

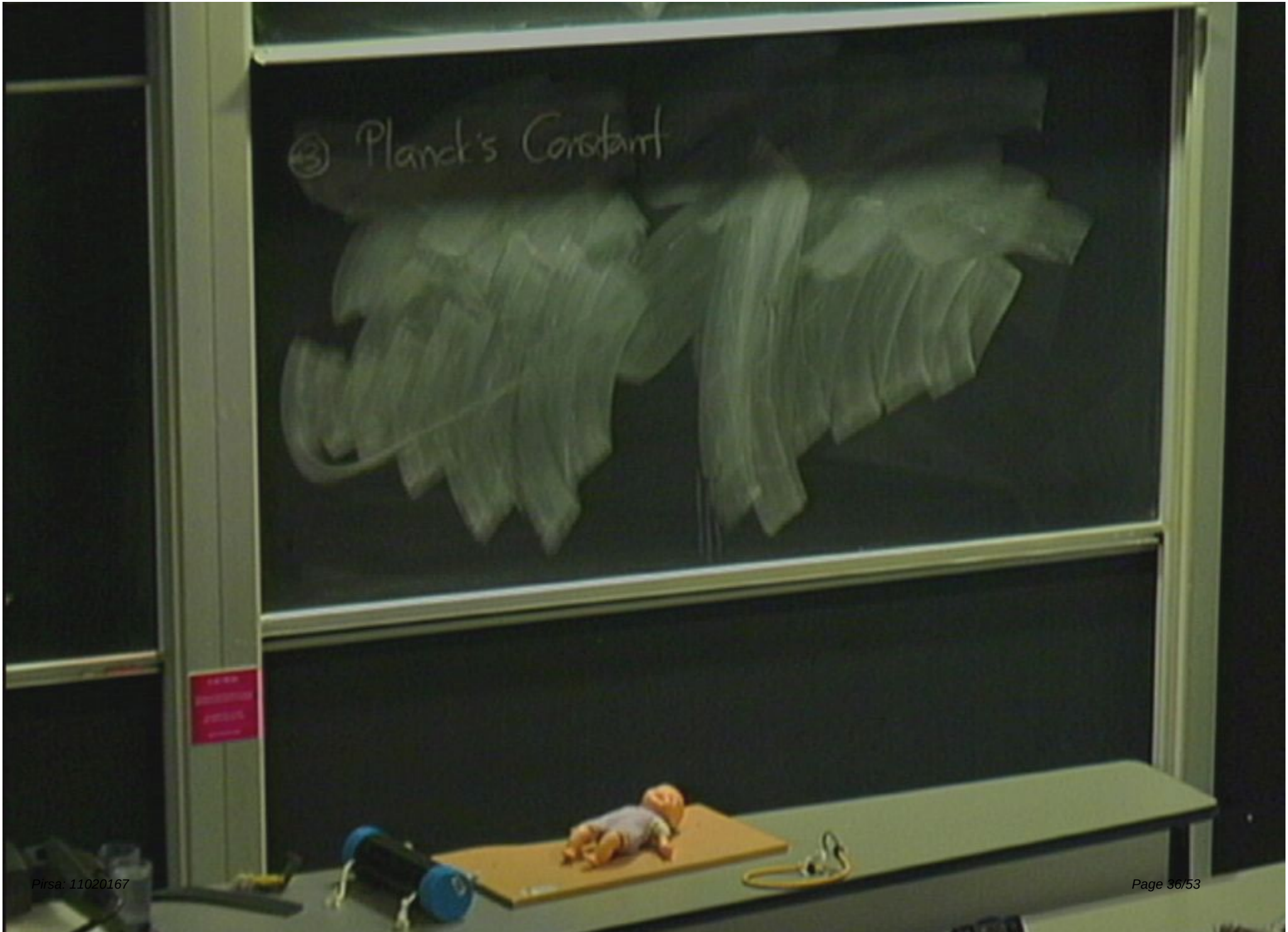

#1
particle nature of light
θ

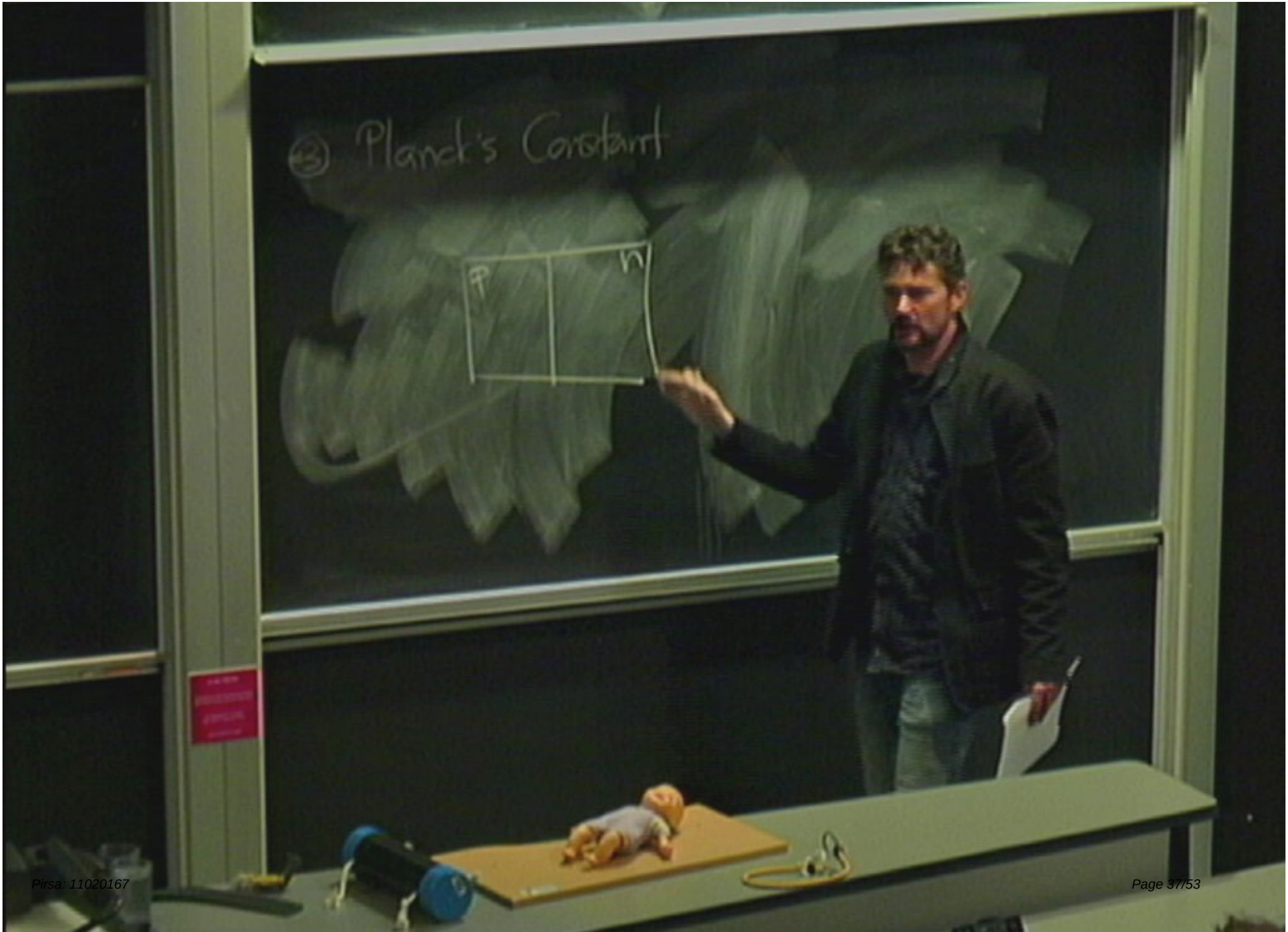

#1
particle nature of light
E=hf
θ
E_k =

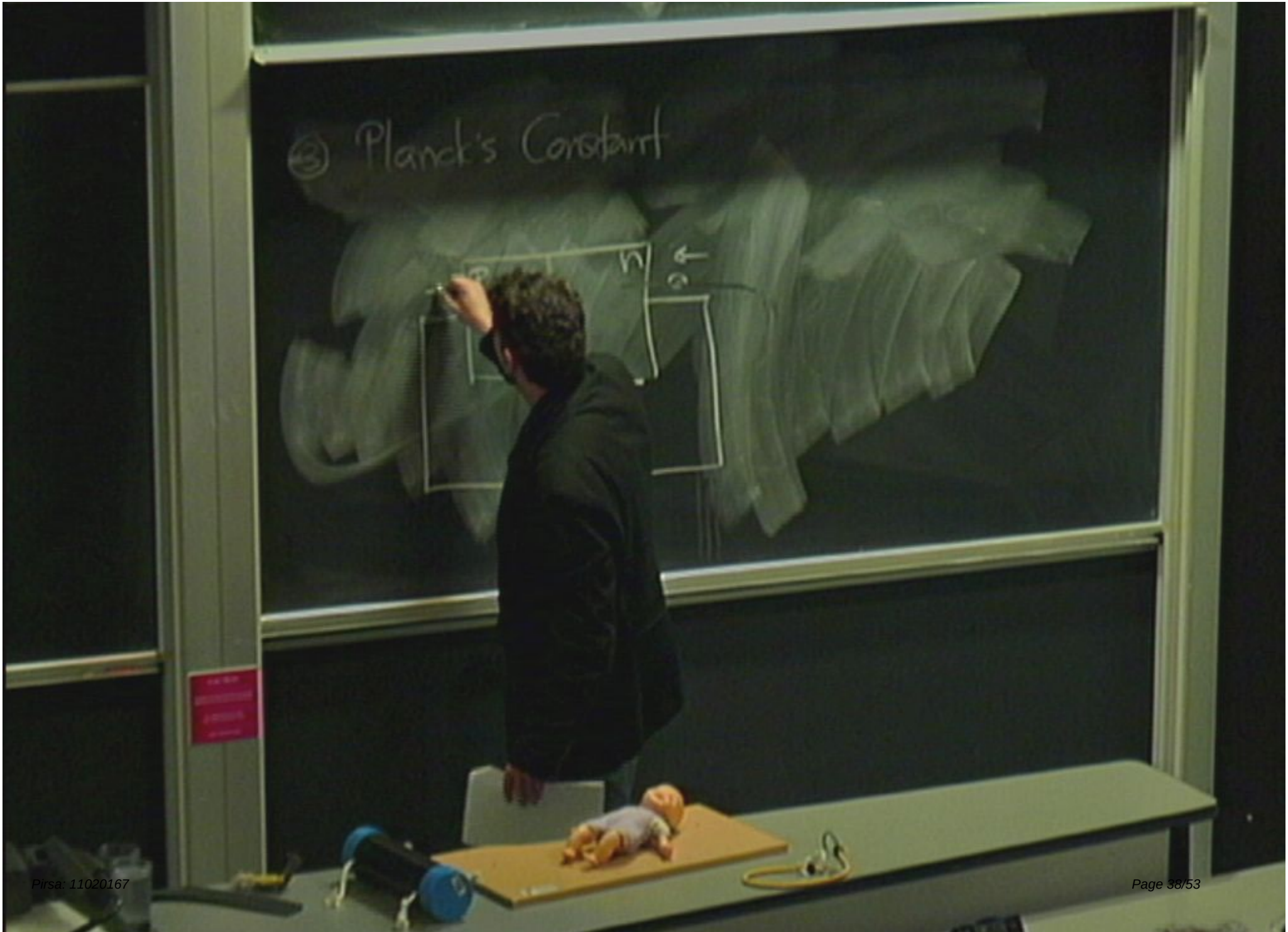

#1
particle nature of light
E=hf
$E_k = E - \phi$

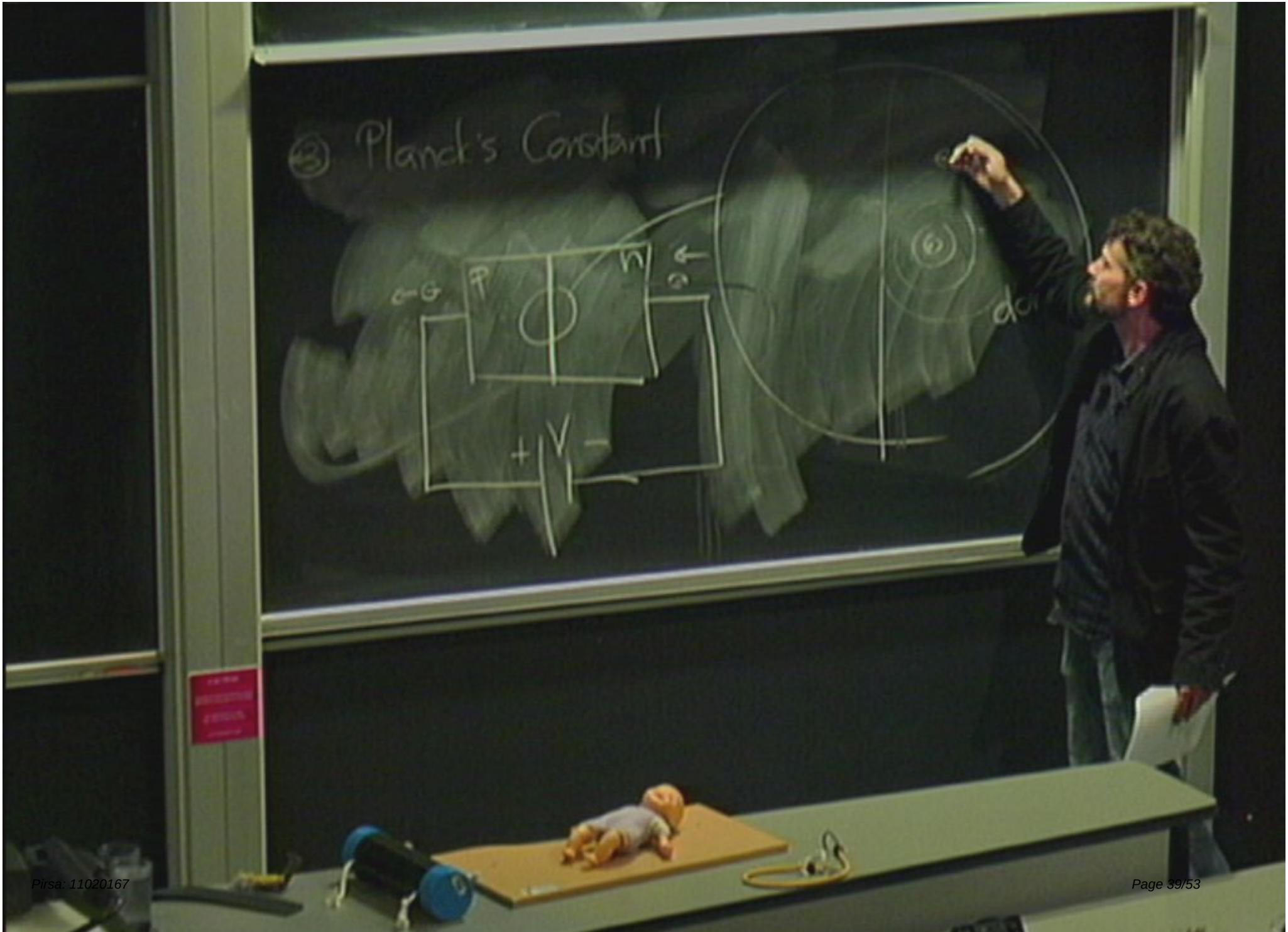

#2
wave nature of matter

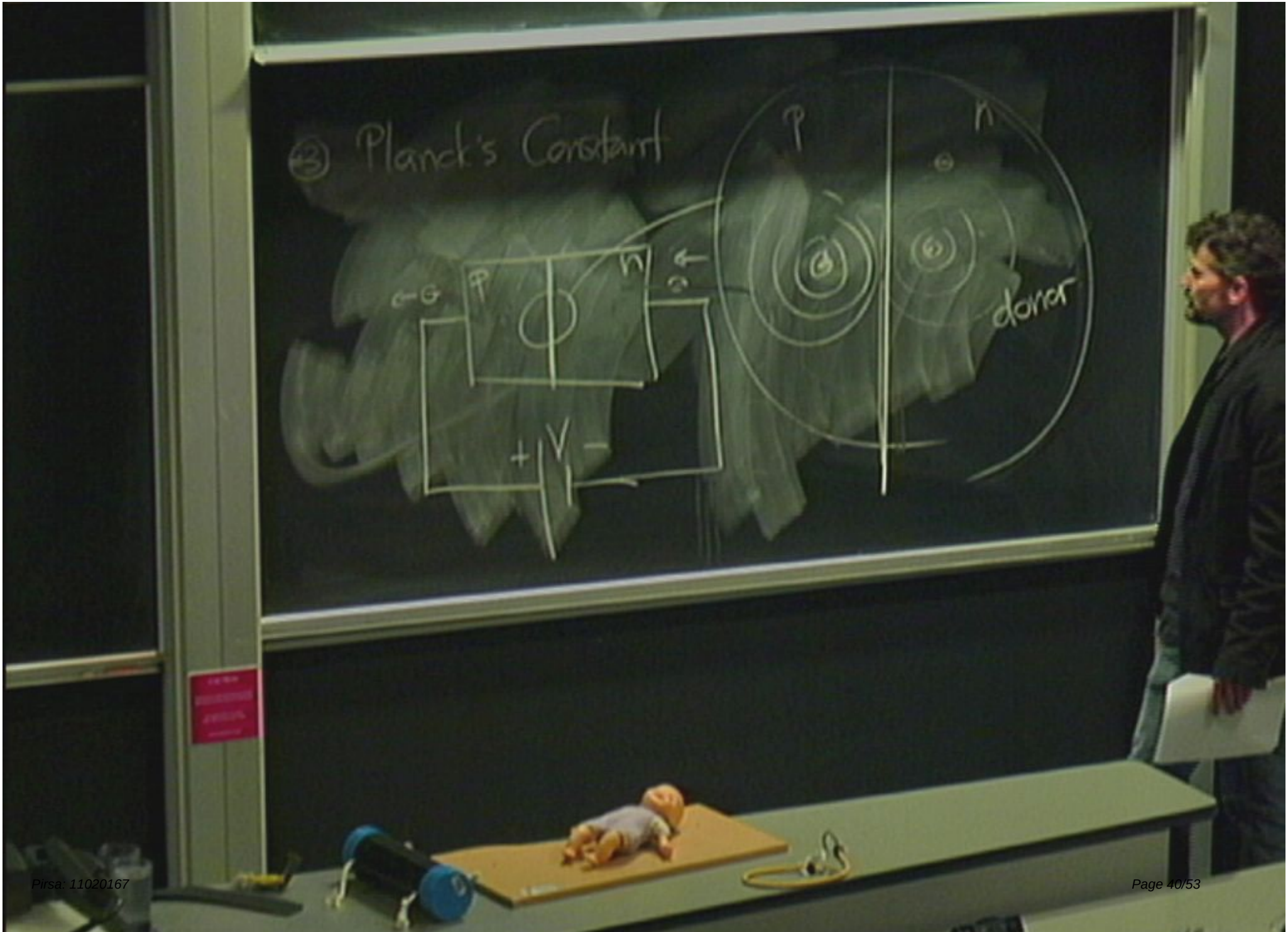

#2
Wave nature of matter
p

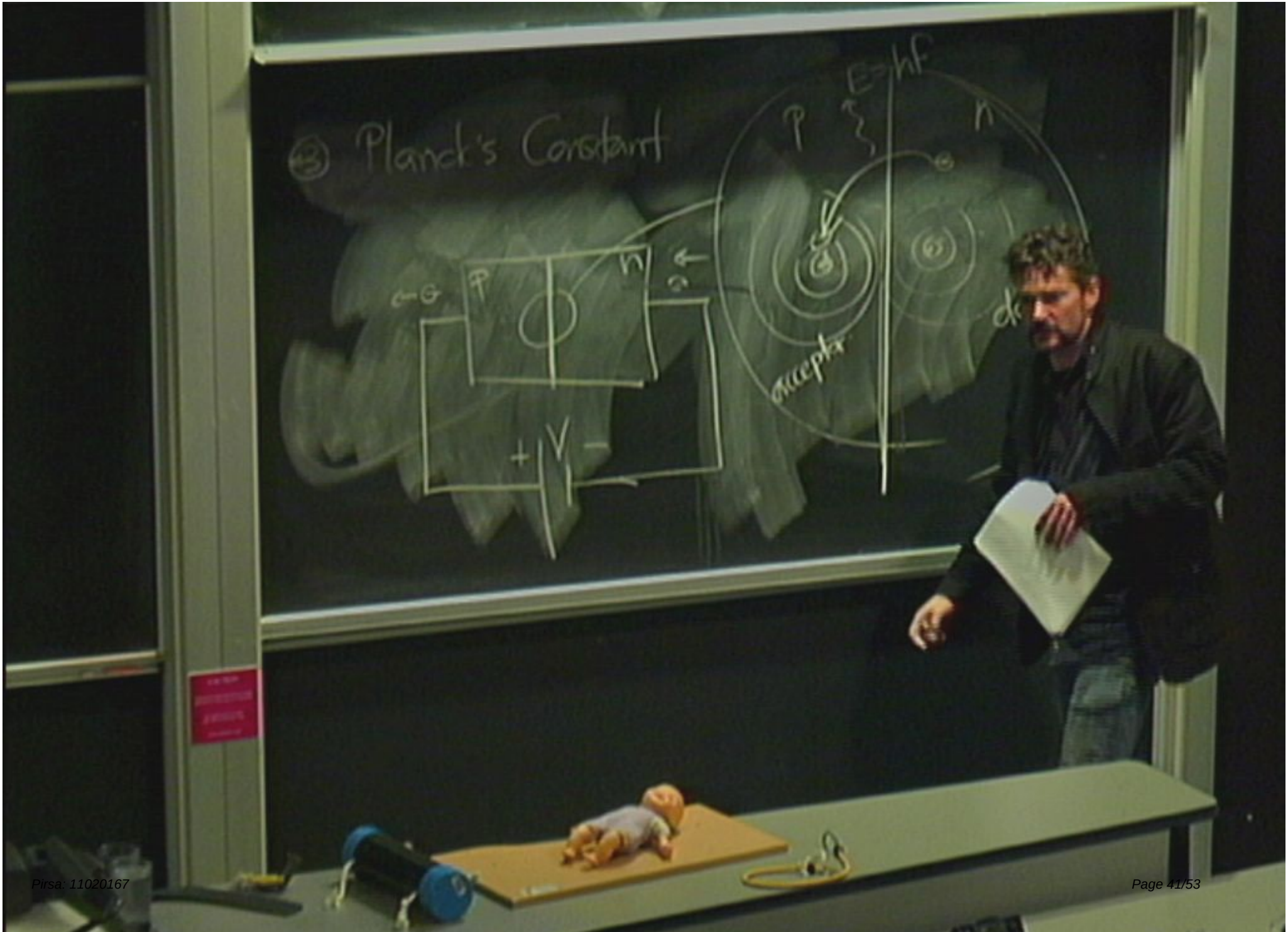

③ Planck's Constant

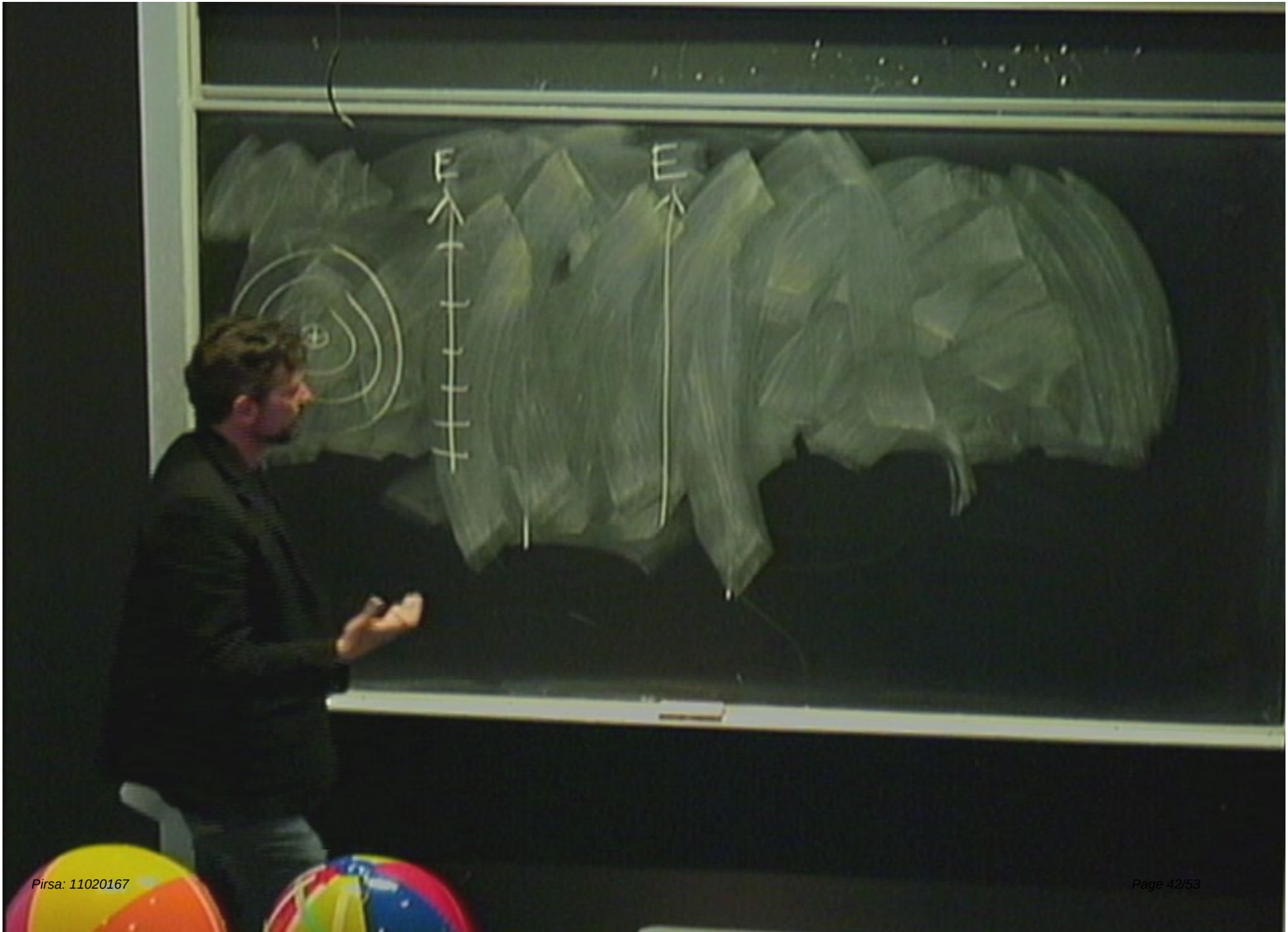

3 Planck's Constant
P
N

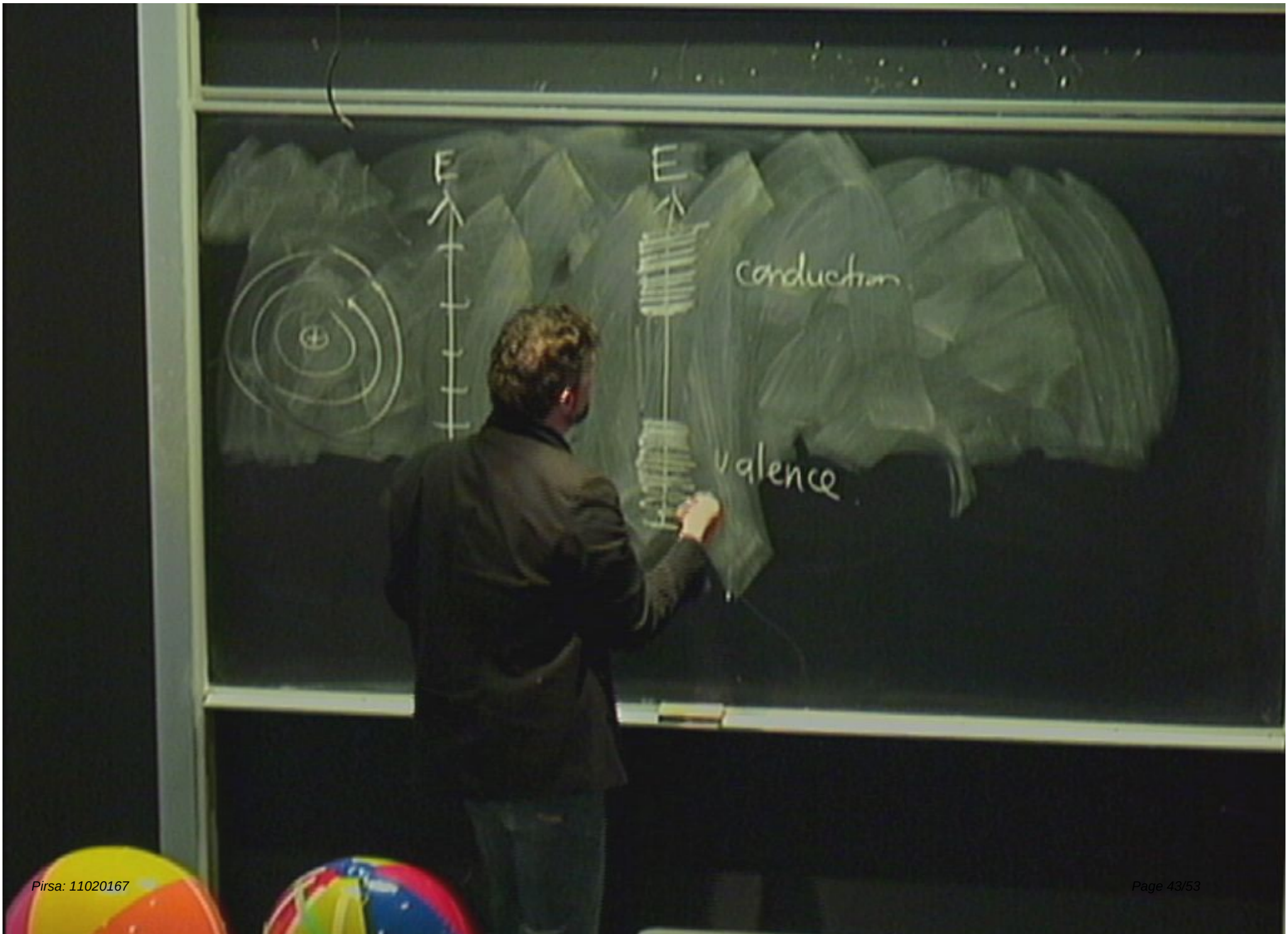

3 Planck's Constant

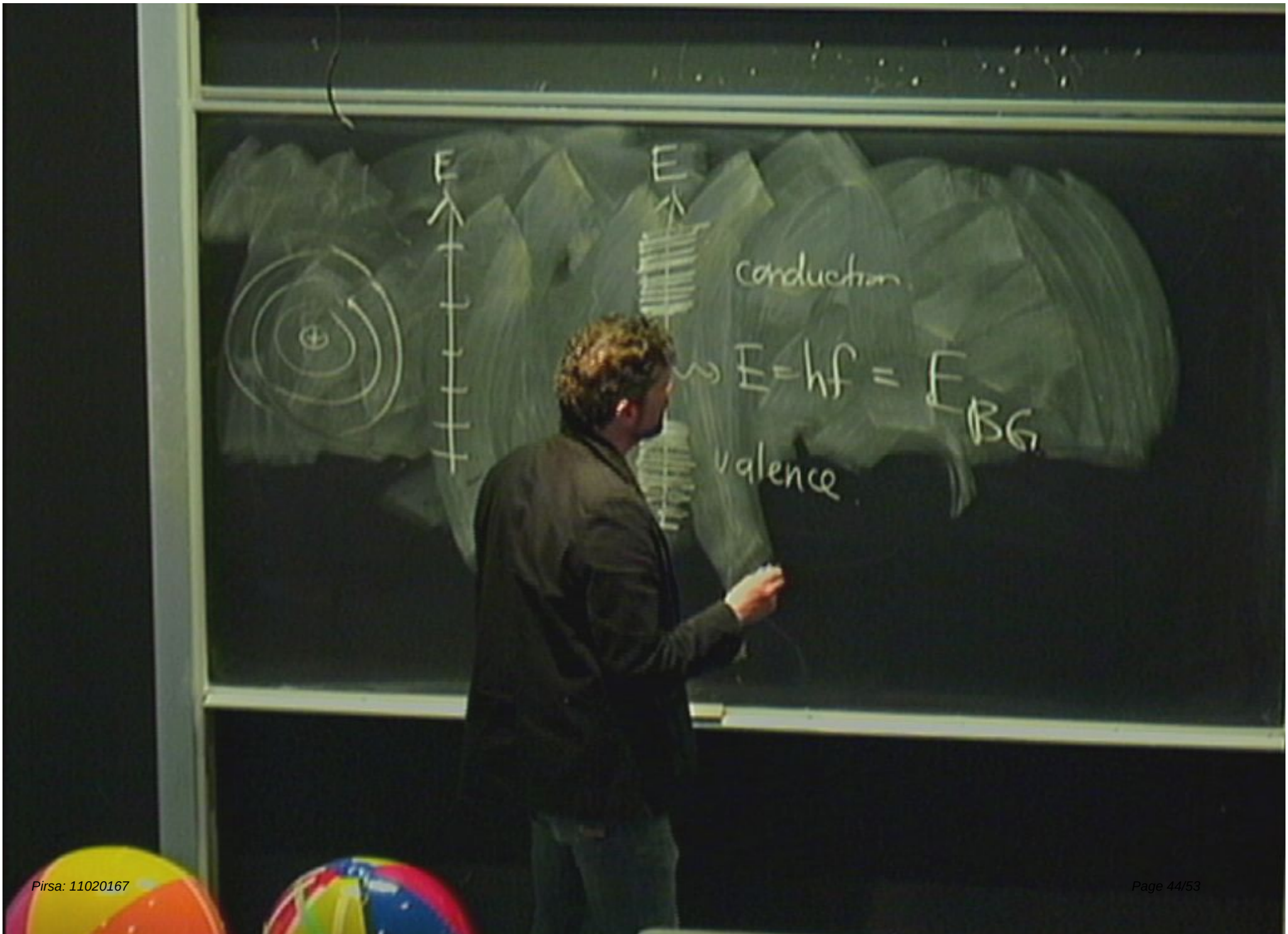

3 Planck's Constant
G
P
h
+
V
−

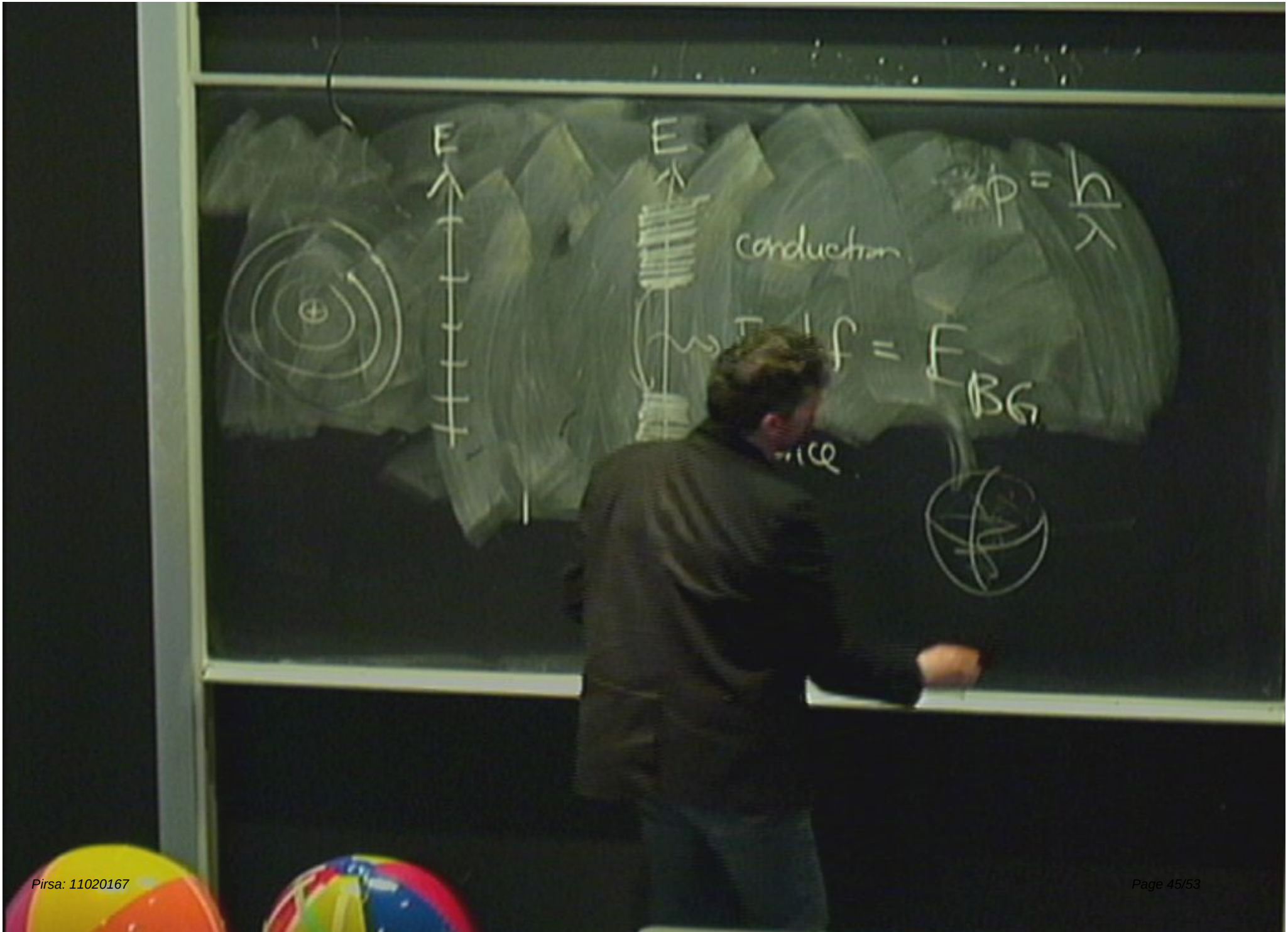

③ Planck's Constant
P
n
P
n
V
+
−
donor

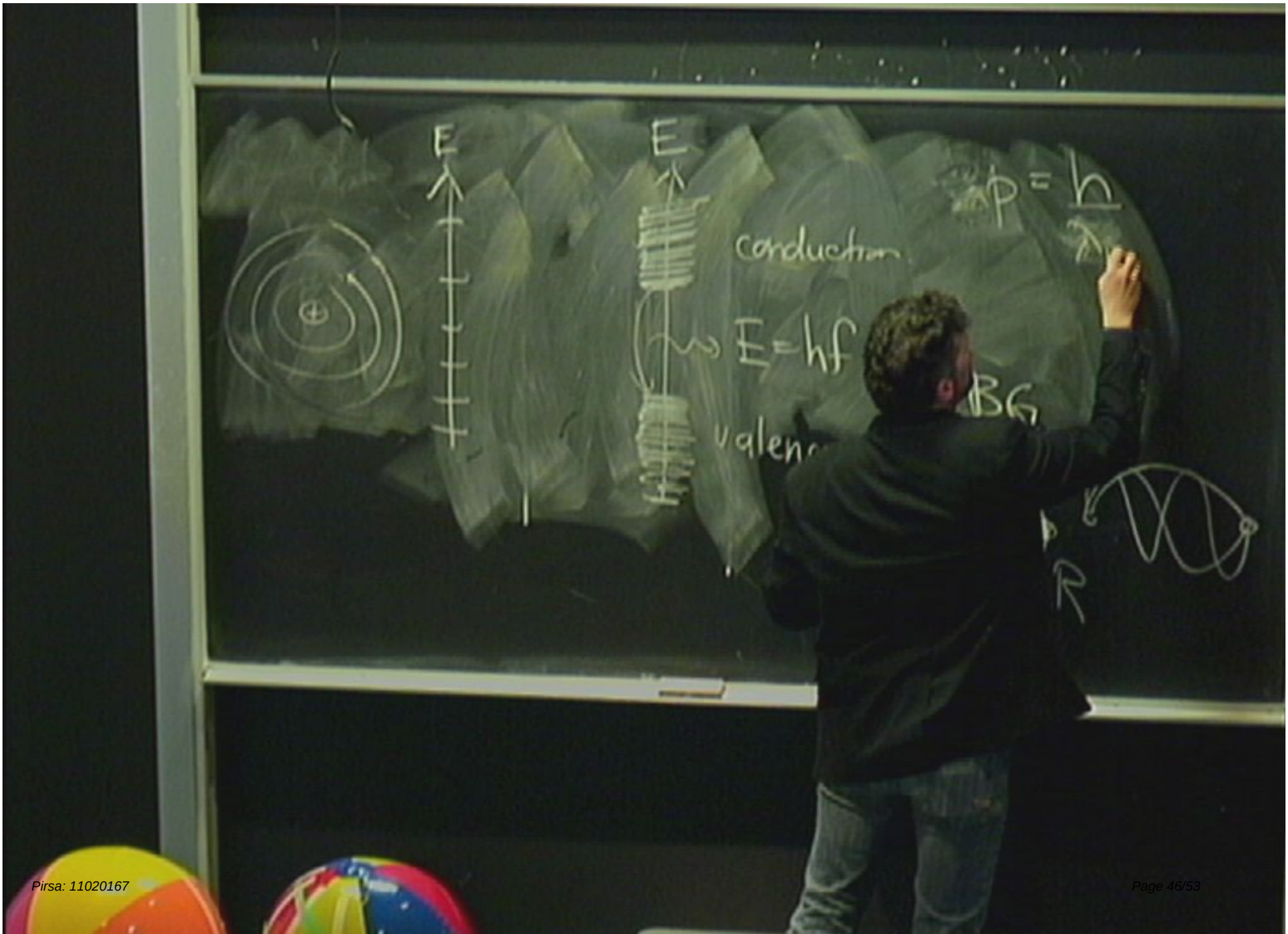

Planck's Constant
E=hf
P
n
P
n
+
V
−
acceptor

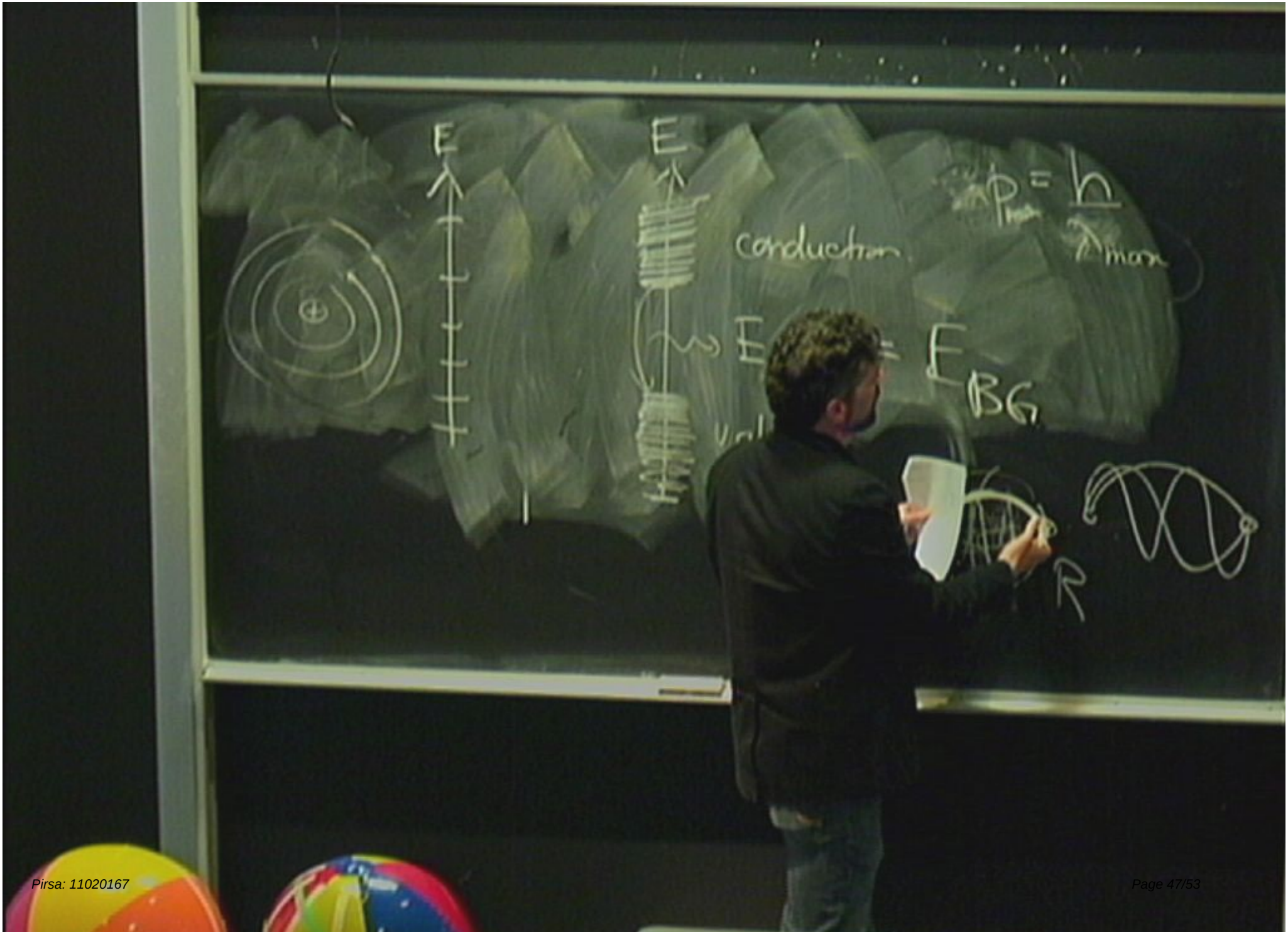

E
E

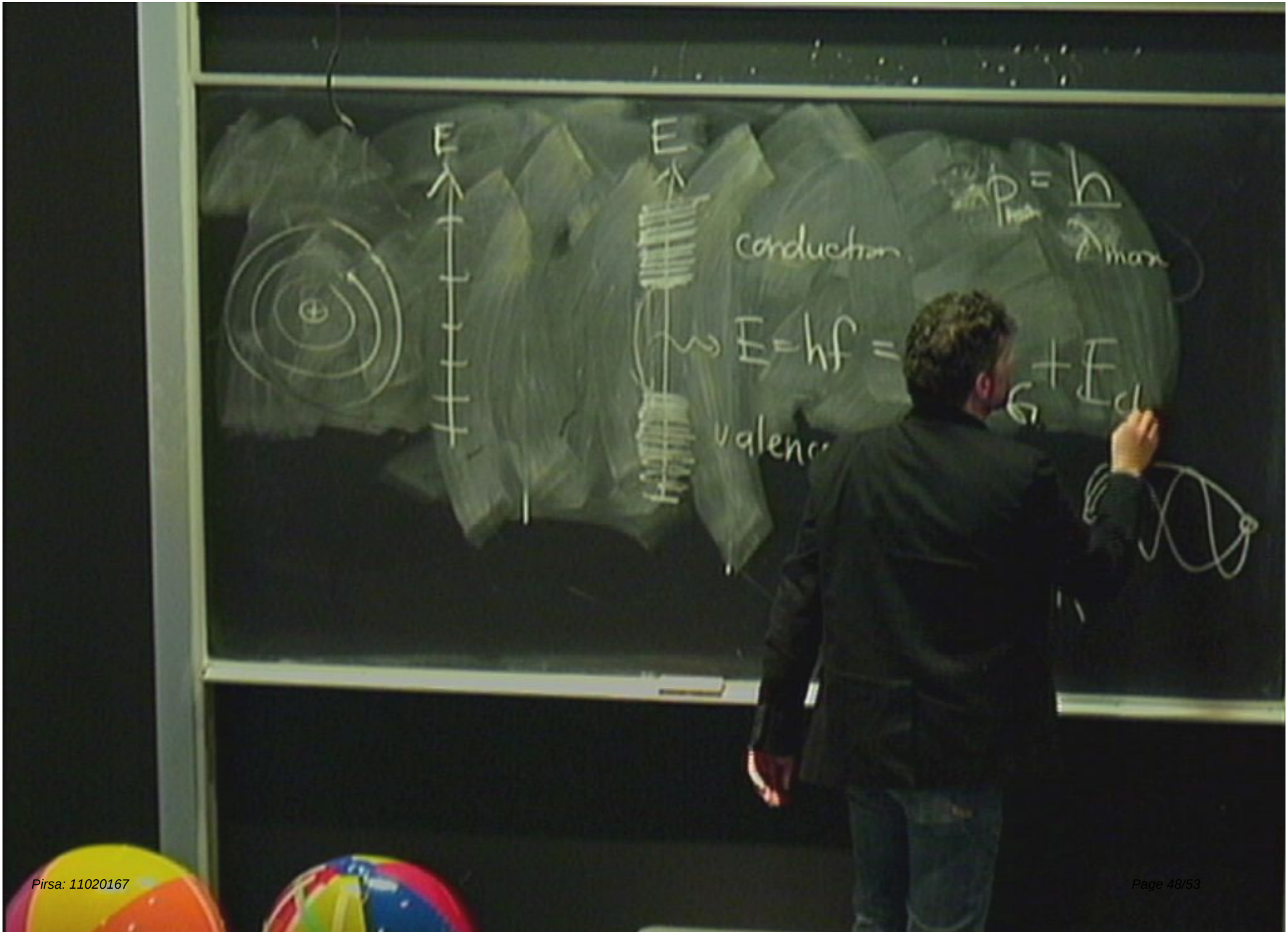

E
E
Conduction
Valence

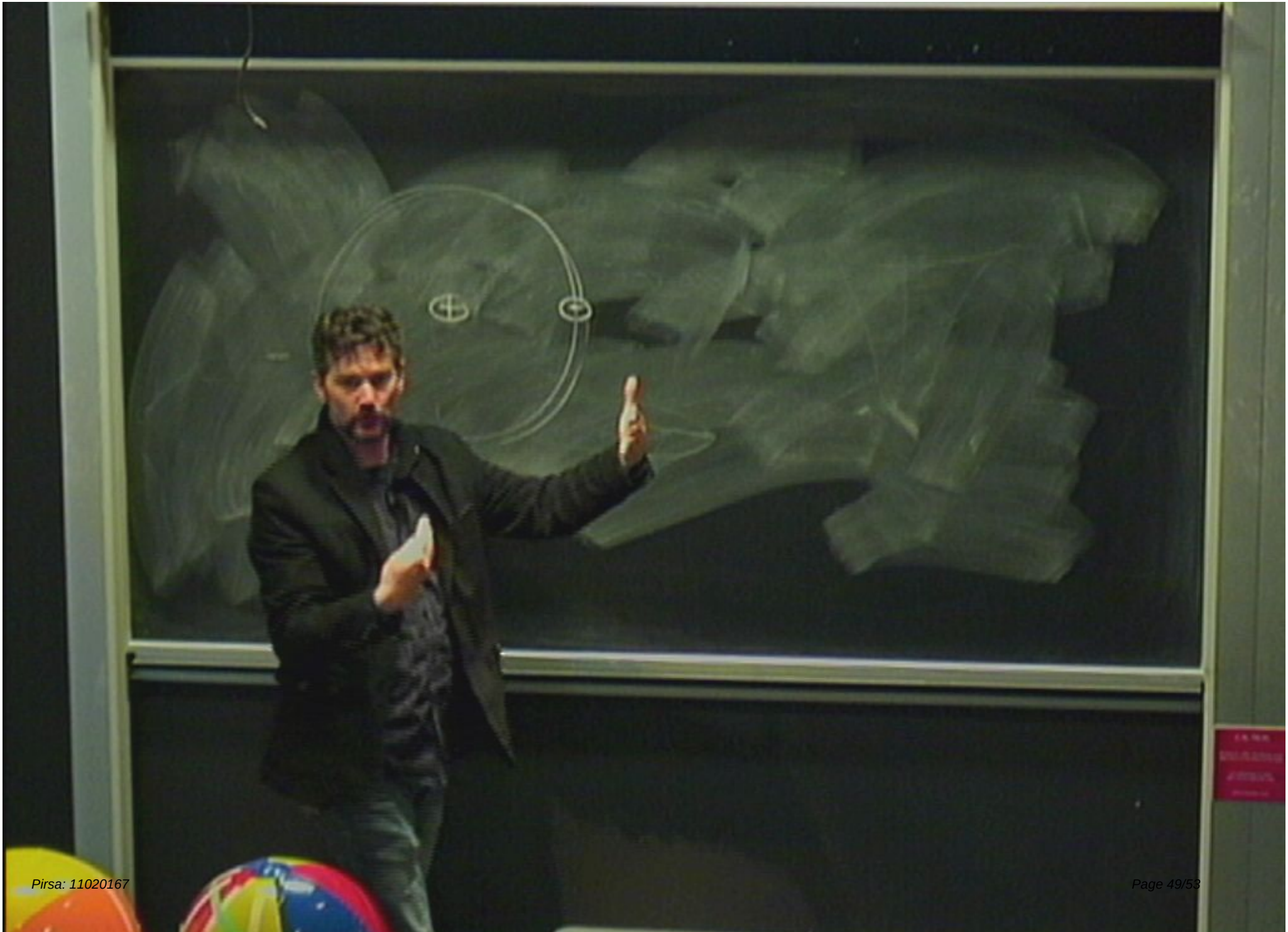

E
E
conduction
E=hf = E_BG
valence

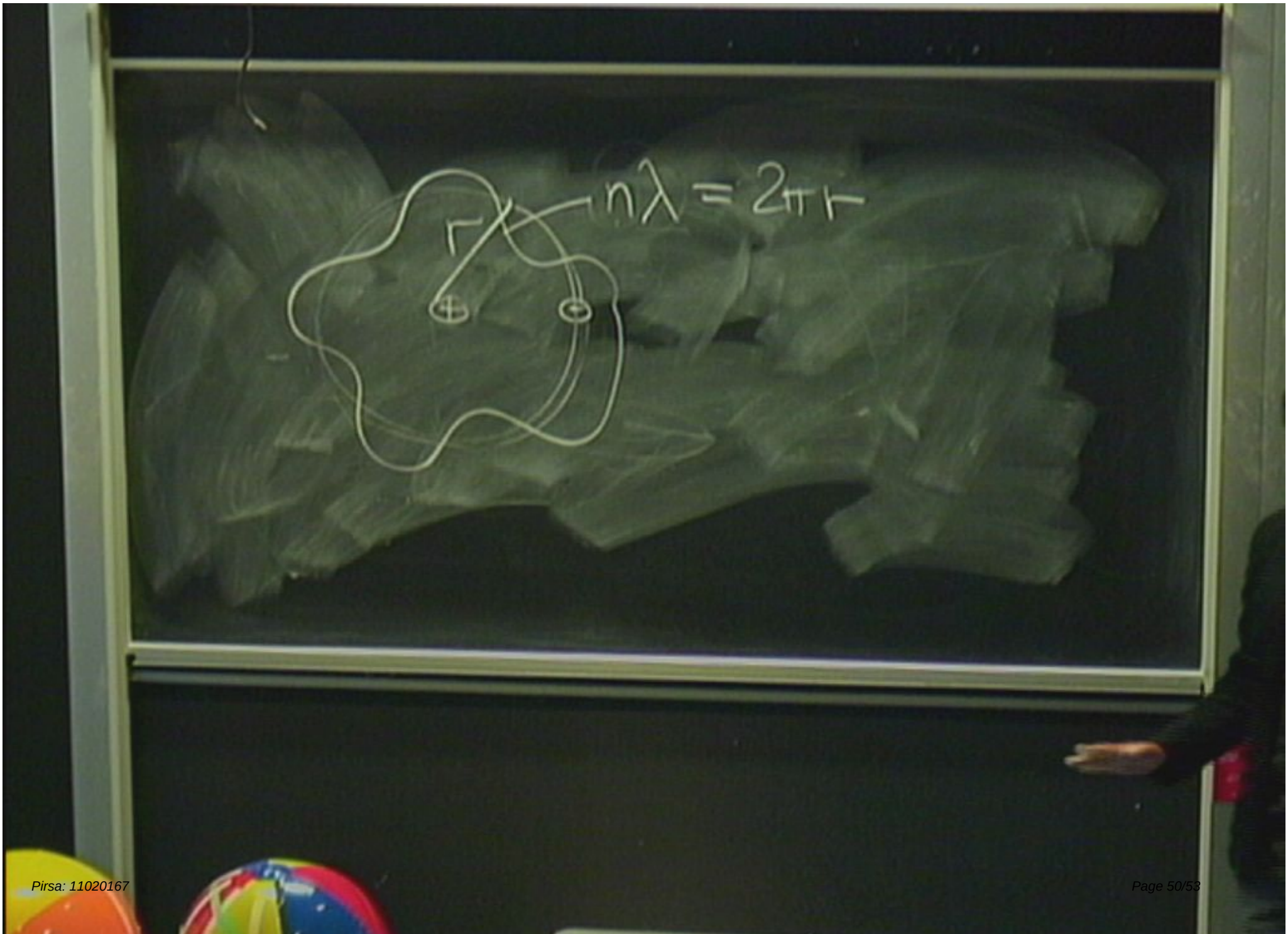

E
E
conduction
$p = \frac{h}{\lambda}$
$f = E_{BG}$

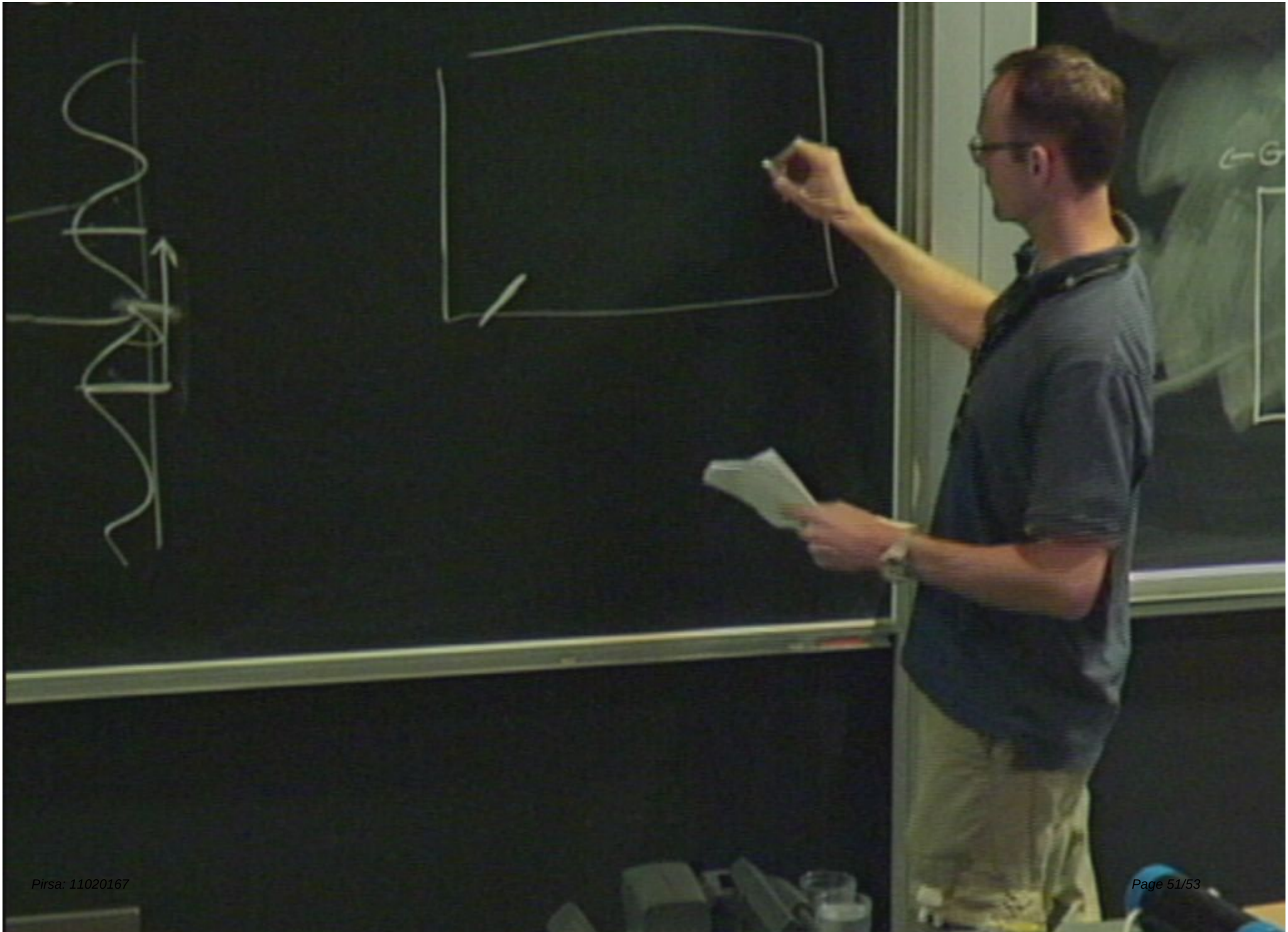

E
E
conduction
E=hf
BG
R

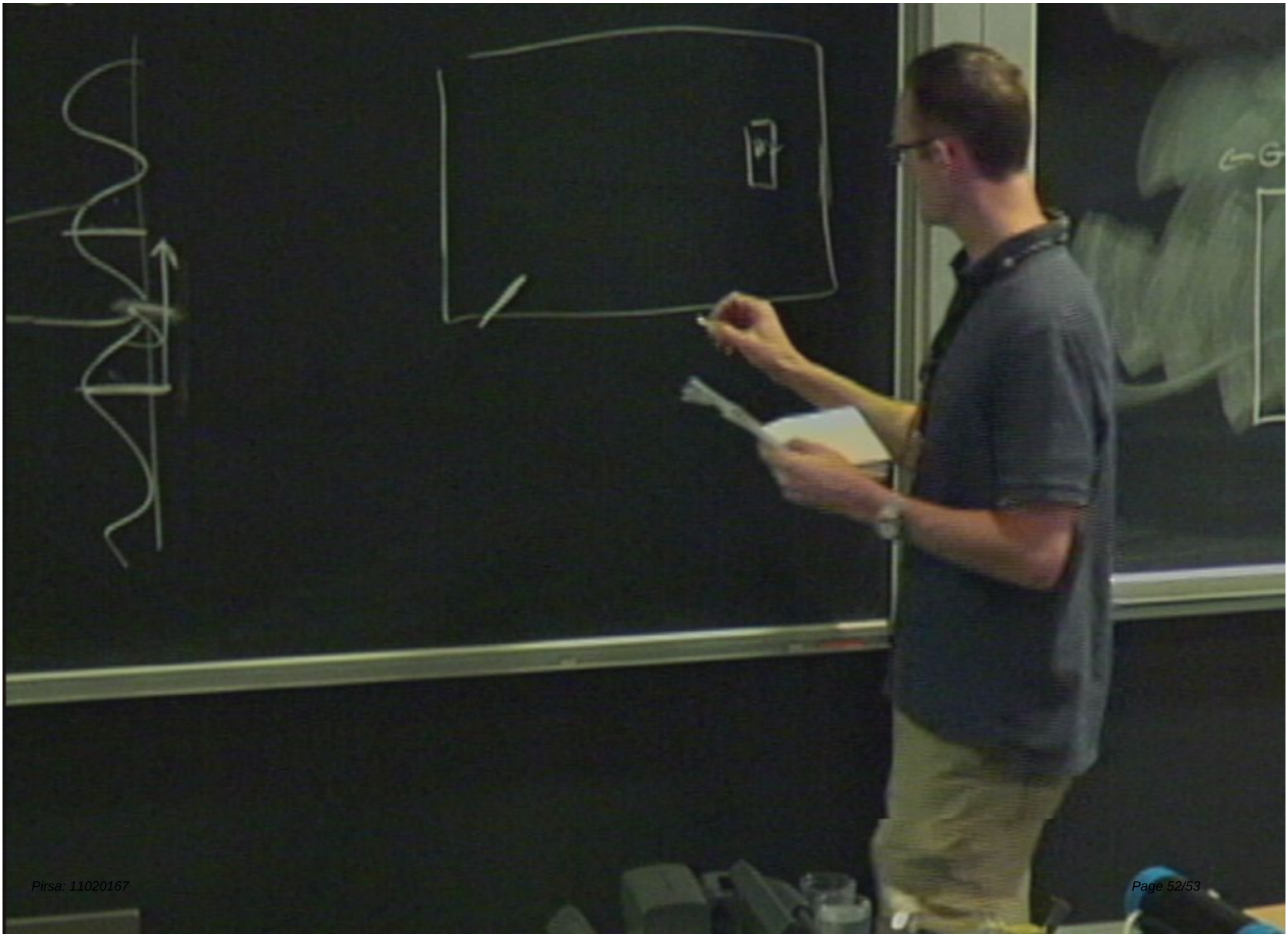

E
E
conduction
E
E
BG
R


E
E
conduction
E=hf =
valen




r
nλ = 2πr






Planck's
W1
W2