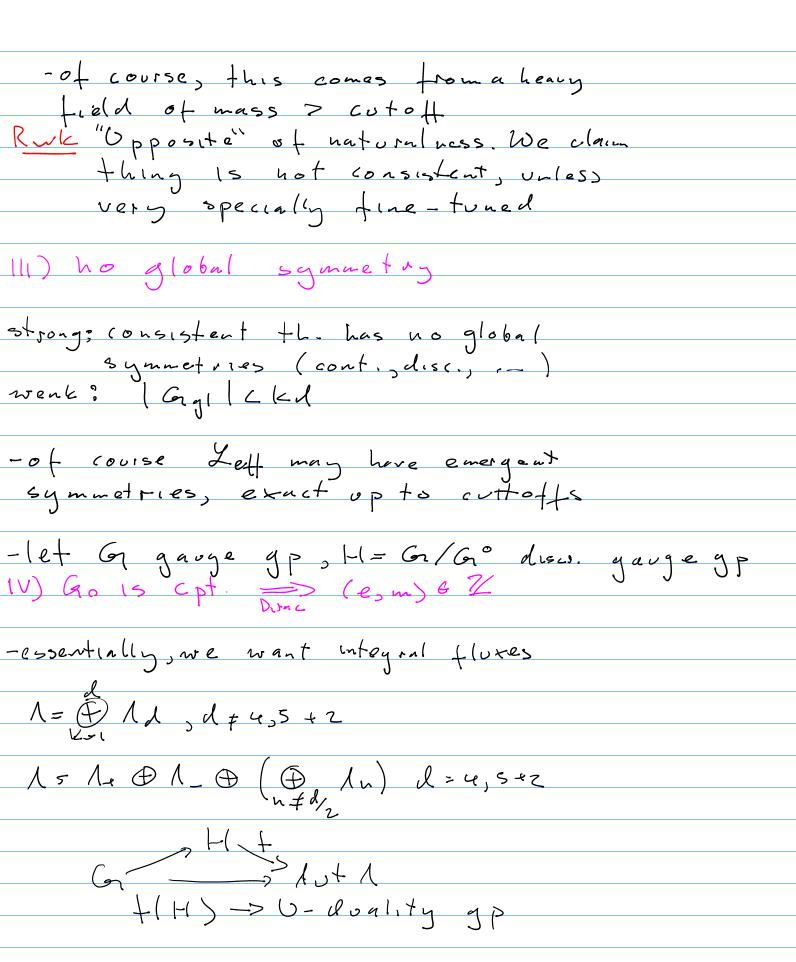
Cecotti Review of Swampland 1) finiteness conj - there is a uniform bound (in theory space)

# massless spin s fields < Nd(s)

Spinetime - clearly Nu(>2)=0, Nu(z)=1,  $Nu(\frac{3}{z})=\frac{3z}{z!z!}$ but u(50) Nu(0, 1/2)1)? 11) no parameter Couplings are veus 2= < 4> Strong ? Leff is rigid sie. Frontinuous wenk ? parameters -of course, if 25 ( Yneary ), where then 26 { critical pts of V ( Yneary )} which is necessarily a set of isolated pts > if not, we would have light particles along valleys Vector granphoton Noz -e.g. type IIB - cpt. Max 673 T= 1/2 + 4thi

-> t is not a generic things but something not unlerstood, determined as  $9 = \int_{B} \int_{A} \int_{A}$ 



## V) (ompletencss

Strong: every charge allowed by Dirac q.

-black hole argument -> if charges full into isM , when it evaporates we get som

-now we come to the geometric conjectures
- Left = . - 1 [-9 Gri-(4) or 4 i dry; + - 
=> 2 (9) 3 wart on

M

Griginal conj?

d. M71. Then M complete, noncpt,

-better ? every subharmonic , bounded function on Mis constant

Griginal: H. (M) = 6

-better? Let M fin. cover of M.

+270 + Ip] & H, (A, Z), we can find
loop & s.t. [x] > [x] and len & < E.