· 71 - hermitian Symmetric space . G/B - semisimple G(R) AUT(H) 6 UP)/K 2 H C-muximal compact P.g. 11-19= 12 EMg(() im 7 Pol. def. G-5P2g (CD) Z = (AZ+B)((Z+D)

Ag: SP2g(Z)/Hg moduli spule of Principally Polarized Abeliah Varietie S. dim g Def: x ∈ H is CM if S+4((x)) T((R),

GOR)

T/6 C G/6 torus of maximal runk CM[XJEZL!

T = G(Z) or Commensurall $[T: G(Z) \cap T], [G(Z): T \cap G(Z)]$ finite.

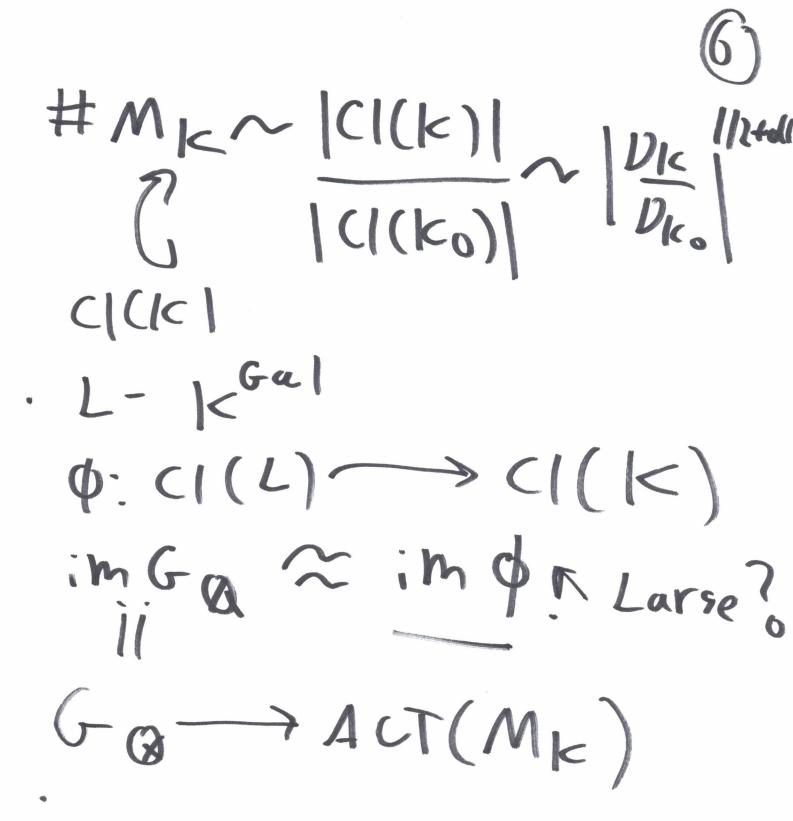
· 2= 2 = 4 L/ H

· (THM) S quasi-proj. variets / a

. S has a model over a humber field (reflex field) · 6/a C G/B Semisimple ·xeH G(R)·x is Complex analytic W=[G((R). X] C 57 algebrai ("weulds special . 545 W is . W special if it CM Pt. (outains a

Thm: (André-ourt) ret ACZL'A (ohtains fihitely many maximal special subvarieties Galoil Orbits Let XELG CM. · Ax2 (1/I, [I] E (1(K)

Ax2 (/I, [I] ECI(K) K/6 CM field OF degree 29 1 x6MK.



7

P.g. L= |< φ= ×m |im φ| = | ((κ)) ((κ) cm)

(ohi(ZHANG, DRIMER-SICHERMAN) | C((C)[m]= |D|=|o(1) Learn: All Points im MK

are defined over the same #-field.



upper bounds for Heights

Lother bounds for Galois orbits.

Idea (Schmidt)

$$H\left(\frac{\alpha}{h}, e^{\frac{2\pi i\alpha}{h}}\right) = H\left(\frac{\alpha}{h}\right) = h$$

$$N\left(I, h\right) \geqslant \phi(h) = h^{1-o(1)}$$

$$\left(B \cdot h \neq a m \cdot h \cdot h\right) N_{K}\left(X - X^{\alpha/9}, T\right)$$

$$T^{\circ(1)} [K: \emptyset]$$

$$I \geqslant 0$$

$$I \geqslant 0$$

(Bihyamini-schnidt-yafaer)

Upper Ruunds for Heights

[1]

Loker Pounds for Galois ORbits.

Pf: (of Uller lowhds)

(olmez (ohj) xeAg, CM

hfai(x) = \times L-railes.

This (Aretage (olhez)

"sketch" ih Y(1).

|x| < M, |x| = h(i)(x) |x| < h(i)(x) |x| < h(i)(x) |x| < h(i)(x)

~ 2 6 kall (Wid