Gauge ⑥ Lecture

Stable higher rk flag sheaves on sfcs - Sheshmani

- S nonsing proj sfc, $H^1(\mathcal{O}_S)=0$, $h = c_1(\mathcal{O}_S(1))$
- let $\vec{r} = (r, \gamma, n) \in \bigoplus_{i=0,2,4} H^i(S, \mathbb{Q})$, let $M_h(\vec{r})$: m.sp. of h-semistable sheaves ($= \mathrm{Coh}_S$) on S w ch.char $\vec{r}$.
  → projective
- assumptions: - slope semist. ⇒ slope stability
  - $M^h_{\vec{r}}(S)$ admits univ. family
  - ensured by $\gcd(r, \gamma \cdot h) = 1$

- if M = mfld, $\chi_M = \int_M c_{top}(TM)$
  $\rightsquigarrow H^0(M)$
  $= c_{top}(TM) \cap [M]$

→ if M singular, no $[M]$
⇒ $\chi_M^{vir} = \int_M c_{top}(ob) = c_{top}(TM) \cap [M]^{vir}$
$\in A^d(M)$

obst. bdl $ob = h^*(E^\bullet)$, $E^\bullet \in D(M)$
$\in$ "Nice"

$E^\bullet \to \mathbb{L}^\bullet_M$