

13 - chromatic picture

Wednesday, November 11, 2015 8:54 AM

\mathcal{M}_{FG} = moduli stack of FGL's

$$[\mathcal{M}_{FG}(R) = (FGL's / R, \text{strict isos})]$$

$\mathcal{M}_{FG^{+tp}}$ = moduli stack of p-tp. FGL's

$$\text{Ext}_{\text{Mod}_{\mathbb{Z}_p}}(\text{MU}_*, \text{MU}_*)_{(p)} \cong \text{Ext}_{\text{BRFP}}(\mathbb{B}\mathbb{R}, \mathbb{B}\mathbb{R})$$

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$$H^*(\mathcal{M}_{FG})_{(p)}$$

$$H^*(\mathcal{M}_{FG^{+tp}})$$

[Since groupoids $\mathcal{M}_{FG}(R), \mathcal{M}_{FG^{+tp}}(R)$ are equivalent for R a \mathbb{Z}_p -alg]

$R = \mathbb{F}_p$ -alg

Def $FG(FGL(R))$

has ht n if

$$[p]_{FG} = v_n x^{p^n} + \dots \quad v_n \in R^\times$$

$\mathcal{M}_{FG}^{\leq n}(R) = FGL's \text{ ht } \leq n$

$$(\mathcal{M}_{FG})_R \hookrightarrow \mathcal{M}_{FG}^{\leq 1} \hookrightarrow \mathcal{M}_{FG}^{\leq 2} \hookrightarrow \dots \rightarrow \mathcal{M}_{FG}$$

$$H^*(\mathcal{M}_{FG})_R \longleftarrow H^*(\mathcal{M}_{FG}^{\leq 1}) \longleftarrow H^*(\mathcal{M}_{FG}^{\leq 2}) \longleftarrow \dots$$

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$$H^*(\mathcal{M}_R)$$

$$H^*(\mathcal{M}^{\leq 1}, \mathcal{M}_R)$$

$$H^*(\mathcal{M}^{\leq 2}, \mathcal{M}^{\leq 1})$$

Get SS (chromatic SS)

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$$E_1^{>n} = H^*(M^{\leq n}, M^{\leq n-1}) \Rightarrow H^*(M_{F_n})$$

Thm $k_2 =$ separably closed fld, $F_i \in \text{FGL}(k)$

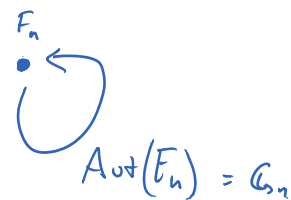
$$\text{ht } F_1 = \text{ht } F_2 \iff F_1 \cong F_2$$

Consequence

$$M_{F_n}^{\leq n} - M_{F_n}^{\leq n-1}$$

looks like

(single object F_n)
 $\text{Aut } F_n = \text{morph}$



Morava Change of Rings

$G_n =$ Morava stabilizer gp
(profinite gp)

$$H^*(M^{\leq n}, M^{\leq n-1}) \cong H^*(G_n, \text{---})$$