OneNote

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§ 9.1 – 9.2

$$K(\infty) = \bigoplus_{n \in \mathbb{Z}_{\geq 0}} \underbrace{K_0(\mathrm{Rep}_I\, \mathcal{H}_n)} \quad \mathbb{Z}\text{-mod}$$

$$K(\infty)^{\mathbb{Q}} = \mathbb{Q} \otimes_{\mathbb{Z}} K(\infty)$$

$$0 \to A \to B \to C \to 0 \quad \text{S.E.}$$

$$[B] = [A] + [C].$$

$K(\infty)$: free $\mathbb{Z}$-mod genera. by $B(\infty)$

{ isoclasses of all irred. }

$$K(\lambda) = \bigoplus_{n \in \mathbb{Z}_{\geq 0}} K_0(\mathcal{H}_n^{\lambda})$$

JZ

infl: $\mathcal{H}_n^{\lambda}\text{-mod} \to \mathcal{H}_n\text{-mod}$

$K(\lambda) \hookrightarrow K(\infty)$

$e_i M = \mathrm{Res}^{n-1,1}_{n-1} M_i$

$e_i : \mathcal{H}_n\text{-mod} \to \mathcal{H}_{n-1}\text{-mod}$

exact.

$e_i : K(\infty) \to K(\infty)$

$e_i^{\lambda} : K(\lambda) \to K(\lambda)$

$e_i^{(r)}$

$K_0(\mathrm{Rep}_I(\mathcal{H}_n)) \otimes K_0(\mathrm{Rep}_I(\mathcal{H}_m)) \xrightarrow{\sim} K_0(\mathrm{Rep}_I(\mathcal{H}_{n,m}))$

$K(n)$

$M \otimes N \to M \boxtimes N$

$\diamond : K(\infty) \otimes K(\infty) \to K(\infty)$

composition.

$\Delta : K(\infty) \to K(\infty) \otimes K(\infty)$

$M \in \mathrm{Rep}_I(\mathcal{H}_n)$

$$\Delta(M) = \sum_{\substack{n_1+n_2\\=n}} \Delta^n_{n_1,n_2}(M)$$

$\Delta^n_{n_1,n_2} : K_0(\mathrm{Rep}_I \mathcal{H}_n) \to K_0(\mathrm{Rep}_I \mathcal{H}_{n_1,n_2})$

$\mathrm{ind}^{n+m}_{n,m} \to$

$\to K_0(\mathrm{Rep}_I(\mathcal{H}_{n+m}))$