12.

$$\begin{array}{c} L \\ \downarrow \\ A^{0}_{iso}(n) = G^{0}_{iso}(n) / G^{-\infty}_{iso}(n) \end{array}$$

A complex line bundle.

A determinant exists

$\Longleftrightarrow$ L is trivial. (It isn't).

- $\Psi^{0}_{iso}(n)$ has a unique trace, Tr_R

  [Wodzicki, Guillemin, Bryliński–Getzler].

  "residue trace" descends to $A^{0}_{iso}(n)$

- $Tr : \Psi^{-\infty}_{iso}(n) \to \mathbb{C}$ has an extension

  $\overline{Tr}_H : \Psi^{0}_{iso}(n) \to \mathbb{C}$ <u>not</u> a trace.

Exterior derivation

$$\overline{Tr}_H([A,B]) = Tr_R(B D_H A)$$