11.

Then

$$\eta^{APS}(\partial) = \eta(\partial_{+i\lambda})$$

if $\partial_{+i\lambda} \in \Psi^1_{sa}(X)$ is invertible.

An application (Hopkins):

∂_y^1, ∂_y^2 two Dirac families

- parametrized by $y \in Y$
- on odd-dimensional manifolds X_1, X_2

$\partial_y = \partial_y^1 \otimes \partial_y^2$ is a family on a

spin-manifold $X_1 \times X_2$.

- $\mathrm{ind}(\partial_y) = 0$
- $c_1^*(\partial_y) = [\omega]$

where $\omega = \gamma^* \tilde{\omega}$, $\tilde{\omega}$ volume form on T^2

$\gamma(y) = (\tau_1, \tau_2) \in T^2$