1a. X compact with corners of codimension two.

∂ - Dirac

Lagr.-M. • $\exists A \in \Psi_c^{-\infty}(X)$ s.t. $\partial + A$ is Fredholm

$\Leftrightarrow$ ∂_F has index zero for each corner F

• Hassell-Mazzeo-M.
• Müller

then for a good choice of $R \in \Psi_c^{-\infty}(X)$

$$\eta(\partial + R) = \int_X AS - \frac{1}{2}\sum_{\substack{\text{higher}\\ \text{-dim}}} \eta(\partial_H + R_H)$$

• Can arrange $R_\varepsilon \to 0$ as $\varepsilon \to 0$, along Fredholm

$$\eta^R(\partial) = \int AS - \frac{1}{2}\sum_{\text{higher}} \eta(\partial_H) + \sum_{\text{corners}} w(R)$$

$w(R)$ = explicit # in Lagrangian - Grassmannian