Positive scalar curvature and the Dirac operator on complete riemannian manifold

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0 Some prerequisites of this note

0.1 Schwartz kernel

1 Generalized Dirac Operators on a Complete Manifold

Let $\mathrm{Cl}(X)$ denote the **Clifford bundle** of X. This is the bundle over X whose fiber at a point $x \in X$ is the Clifford algebra $\mathrm{Cl}(T_xX)$.For the definition of Clifford algebra, we recommand the website.

Furthermore, the riemannian metric and connection extend to $\mathrm{Cl}(X)$ with the properties that:covariant differentiation ∇ perserves the metric, and:

$$\nabla(\varphi \cdot \psi) = (\nabla\varphi) \cdot \psi + \varphi \cdot (\nabla\psi) \tag{1}$$

for all sections $\varphi, \psi \in \Gamma(\mathrm{Cl}(X))$.

$$\begin{aligned} x + y &= 10 \\ 2x - y &= 5 \end{aligned} \tag{2}$$