1025-53-193 **Shay Fuchs*** (`s.fuchs@utoronto.ca`), 1020-140 Elm Ridge Dr., Toronto, Ontario M6B 1B1, Canada. *A Universal Property of the Group Spin^c*.

It is possible to construct a square root of the Laplacian $\Delta = -\sum_i \frac{\partial^2}{\partial x_i^2}$ acting on smooth functions $f \in C^\infty(\mathbb{R}^n; \mathbb{C})$. This involves finding representations for the standard Clifford algebra of $\mathbb{R}^n$. On an arbitrary oriented Riemannian manifold M, a similar construction is possible, if and only if the frame bundle of M allows a (compatible) reduction from the structure group $SO(n)$ to a group G, satisfying certain properties.

We claim that the group $Spin^c(n)$ is the most natural and universal choice for the group G. This suggests that the spin^c-Dirac operator associated to a spin^c manifold M may be an appropiate object to use in the definition of quantization. (Received January 22, 2007)

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