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Clifford bundles over mapping spaces

We have constructed Clifford algebra with an infinite spinor over W(X), a Sobolev space over a compact (spin) manifod X whose metric is fixed by a 1-st order non-degenerate selfadjoint elliptic (pseudo) differential operator D, and an its representation by using D and G, the Green operator of D. By using this representation, Clifford bundle over the mapping space Map(X, M) is constructed. If D is positive definite, such construction is always possible. If D is the Dirac type, obstructions to the construction of the Clifford bundle appear. The first obstruction vanishes if the structure group of the tangent bundle of Map(X, M) is connected. Geometric properties of higher obstructions are also discussed.