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Gregory J. Parker* (gjparker@mit.edu), 182 Memorial Drive, Cambridge, MA 02142. *Gluing \mathbb{Z}_2 -Harmonic Spinors*. Preliminary report.

We present a gluing theorem for \mathbb{Z}_2 -harmonic spinors. \mathbb{Z}_2 -harmonic spinors are objects that appears as limits of sequences of solutions to generalized Seiberg-Witten equations, by compactness theorems of Taubes and Haydys-Walpuski. It is shown that, under assumptions expected to hold generically, a given \mathbb{Z}_2 -harmonic spinor on a compact 3-manifold necessarily arises as the limit of a sequence of two-spinor Seiberg-Witten monopoles. The proof relies on the construction of model “fiducial” solutions in a neighborhood of a singular set, and the gluing is subsequently accomplished by a Semi-Fredholm analogue of Donaldson’s alternating method. (Received January 13, 2022)