

MATH 285Z ASSIGNMENT 3

This assignment is due at 11:59 pm on Wednesday, Mar. 27, 2024.

Problem 1: Let Ψ be a spinor for the closed 3-manifold Y with a spin^c structure. Show that

$$\langle (\Psi \Psi^*)_0 \Psi, \Psi \rangle_{L^2} = \frac{1}{2} \|\Psi\|_{L^2}^4,$$

where $(-)_0$ denote the traceless part.

Problem 2: Assuming the Floer's excision theorem, show that $SHM(M, \gamma)$ is independent of the gluing diffeomorphism $h : \tilde{R}_+ \rightarrow \tilde{R}_-$.