

MTH 996: Exercises from Week 3

1. Do exercise 1.5 in [OSz06b].
2. Check that the state-sum formula given in class (and in [OSz06a, Sections 11 and 12]) yields the Alexander polynomial.
3. Construct a genus one Heegaard diagram \mathcal{H} for the figure eight knot, and prove that the complex $CFK^\infty(\mathcal{H})$ is filtered chain homotopy equivalent to the version given in class.
4. We have now talked about essentially everything in [OSz06a]; make sure you have taken a look at it and tried some of the exercises.

References

- [OSz06a] Peter S. Ozsváth and Zoltán Szabó, *An introduction to Heegaard Floer homology*, Floer homology, gauge theory, and low-dimensional topology, Clay Math. Proc., vol. 5, Amer. Math. Soc., Providence, RI, 2006, pp. 3–27.
- [OSz06b] ———, *Lectures on Heegaard Floer homology*, Floer homology, gauge theory, and low-dimensional topology, Clay Math. Proc., vol. 5, Amer. Math. Soc., Providence, RI, 2006, pp. 29–70.