Pedagogical Guide to Seiberg-Witten Theory

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1 Introduction

This is the seminar material at QFT seminar in Wathematica[*1]. Since people around me want to know about Seiberg-Witten theory[*2], I decided to choose this topic and start to study. I hope this notes gives such people pedagogical introduction and to enter the subjects.

> I usually use LuaLaTeX to write a text in Japanese, but it compiles terribly slowly. So I wrote this document in English because pdfLaTeX, which is valid only in English, compiles much faster. There is terrible frustration both when I write in English and when I use LuaLaTeX (Fig: 1.1). Let me know if there is a way we can quickly compile Japanese LaTeX files if you are familiar with them.

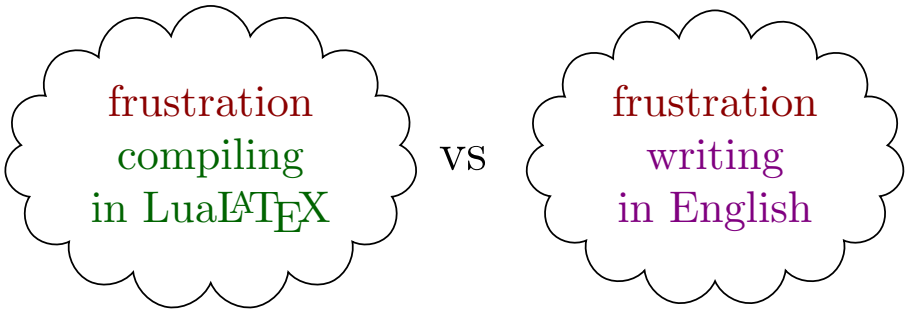

Figure 1.1: My conflict

[*1] Although this note is written entirely in English, I will be conducting the seminar in Japanese. If you want to know why I did not write in Japanese, read the end of this chapter.

[*2] The original papers can be found in [SW94a, SW94b]. If you are a Waseda student, these papers are available in journals. The journals are paid for by our tuition fees, so it makes sense to download from them. Of course, these papers are also available on arXiv. I will not deny to get from the e-print, but ... let me say no more.

References

[SW94a] N. Seiberg and E. Witten, *Monopole Condensation, And Confinement In N=2 Supersymmetric Yang-Mills Theory*, Nuclear Physics B **426** (1994) 19–52, arxiv:hep-th/9407087.

[SW94b] _____, *Monopoles, Duality and Chiral Symmetry Breaking in N=2 Supersymmetric QCD*, Nuclear Physics B **431** (1994) 484–550, arxiv:hep-th/9408099.