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More on gauge theory and geometric Langlands

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ABSTRACT

The geometric Langlands correspondence was described some years ago in terms of S-duality of $\mathcal{N} = 4$ super Yang–Mills theory. Some additional matters relevant to this story are described here. The main goal is to explain directly why an A-brane of a certain simple kind can be an eigenbrane for the action of 't Hooft operators. To set the stage, we review some facts about Higgs bundles and the Hitchin fibration. We consider only the simplest examples, in which many technical questions can be avoided.

Contents

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1. Introduction

Some years ago, it was shown by A. Kapustin and the author [28] that the geometric Langlands correspondence (see for example [14] for an introduction) can be formulated