

Abstract

The main purpose of this thesis is to study the almost Hermitian geometry of the twistor spaces of almost complex and generalized almost complex structures.

We define the Atiyah-Hitchin-Singer and Eells-Salamon almost Hermitian structures on the twistor spaces of oriented Riemannian four manifolds and determine their basic Gray-Hervella classes. We also discuss the so-called generalized almost complex structures in the sense of Hitchin, the twistor bundles of these structures in dimension four and the integrability of their natural generalized almost complex structures.