

Holography principle and Moishezon twistor spaces

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Let $\text{Tw}(M)$ be a twistor space of a hypercomplex, quaternionic Kähler, quaternionic, or ASD 4-manifold M , and S a rational curve in $\text{Tw}(M)$ obtained as a fiber of the projection to M . I prove “a holography principle”: any meromorphic function defined in a neighbourhood U of S can be extended to a meromorphic function on $\text{Tw}(M)$, and any section of a holomorphic line bundle can be extended from U to $\text{Tw}(M)$. This is used to define the notion of a Moishezon twistor space. I prove that the twistor spaces of hyperkähler manifolds obtained by hyperkähler reduction (such as Nakajima’s quiver varieties) are always Moishezon.