Example Export

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1 Example Export

Definition 1.1. Let $\mathcal{H}$ be a Hermitian inner product space of dimension k, and E_∞ be a Hermitian inner product space of dimension n with determinant form. Let

$$T \in V^* \otimes \mathfrak{u}(k)$$

and $P \in \mathrm{Hom}(E \to \not{S}^+ \otimes \mathcal{H})$. Then the tuple $(V, \mathcal{H}, E, T, P)$ is called preADHM data.

Definition 1.2. The preADHM data $(V, \mathcal{H}, E, T, P)$ is ADHM if for all $x \in V$ the map R given in **??** is surjective, and T, P satisfies the moment map condition

$$\mu(T, P) = [T, T]^+ + (PP^*)^+ = 0.$$

Remark 1.3. This moment map comes from the $U(k)$ action on the data, and it is in this sense that the hyper-Kähler quotient.

$$\mu^{-1}(0)/U(k)$$

is isomorphic to the Uhlenbeck compactification of the framed instanton moduli space. (Framed because we are ignoring the action of $SU(n)$ on E.)