Linearization Continued

Section 8.4 Follow-Up

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Review

– The Floer equation is given by

$$\frac{\partial u}{\partial s} + J(u)\frac{\partial u}{\partial t} + \operatorname{grad} H_t(u) = 0.$$

– We fixed a solution and lifted it to a sphere:

$$u \in C^\infty(S^1 \times \mathbb{R}; W) \quad \mapsto \quad \tilde{u} \in C^\infty(S^2; W)$$

– We use the assumption:
  For every $w \in C^\infty(S^2, W)$ there exists a symplectic trivialization of the fiber bundle w^*TW, i.e. $\langle c_1(TW), \pi_2(W)\rangle = 0$ where c_1 denotes the first Chern class of the bundle TW.

– We use this trivialize the pullback $\tilde{u}^*TW$ to obtain an orthonormal unitary frame

$$\{Z_i\}_{i=1}^{2n} \subset T_{u(s,t)}W$$

where