HOMOTOPIES TO DIFFEOMORPHISMS
IN FIELD THEORY

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Abstract

Considering homotopies between non-compact Lagrangian submanifolds, and using the Fukaya conjecture relative to the Witten deformation of higher product structures (conforming a Fukaya category from the perspective of the Floer complexes) are determined diffeomorphisms $C_{-*}(\Omega_\chi) \to \mathcal{W}(H)$, whose space of paths go from $\gamma(\chi)$, to $\phi(\chi)$, foreseen in $HW^*(L_0, L_1) \cong H_*(\mathcal{P}_{\chi_0, \chi_1})$. Then the field ramification of the space $C_{-*}(\Omega_\chi)$ is a connection obtained under the following category scheme:

$$
\begin{array}{ccc}
\mathrm{mod}(B) & \xrightarrow{\mathcal{R}^{-1}} & C \\
\nearrow \quad \downarrow & & \nearrow \quad \downarrow \\
0_c(\phi) \in H(\mathrm{mod}f(C_{-*}(\Omega Z))) \to H(\mathcal{M})\mathcal{M} \\
\downarrow \quad \nearrow \Omega Z & \to & \downarrow \mathrm{embb} \nearrow \\
C_{-*}(\Omega_\chi) & \xrightarrow{Diff} & \mathcal{W}(H) \ni \phi
\end{array}
$$

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