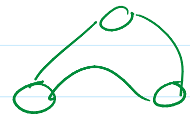
Friday, November 25, 2022 9:09 AM

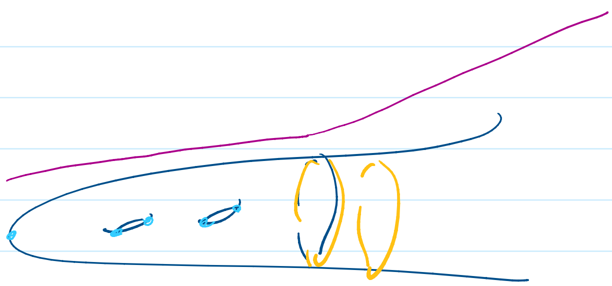
Thm (K):
Let W be a Liouville domains, then $\exists$ a co-commutative coproduct str
$\lambda: SH_*(W) \longrightarrow SH_*(W) \otimes SH_*(W)$
of degree $-n+3$.



Thm (K): Assume (X, ω) is spherically monotone with monotonicity constant τ_X, and $D \subset X$ is P.D. to $K\omega$ with $\tau_X > K > 0$, then the Morse-Bott split coproduct is well defined, only consists of the simplest configuration

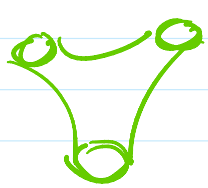
Thm (K): Let $[U]$ be a generator of $SH_6(T^*S^3)$, and $[1]$ denote the unit $\in SH_*(T^*S^3)$ then $\lambda([U]) = [1] \otimes [1]$

Setting:



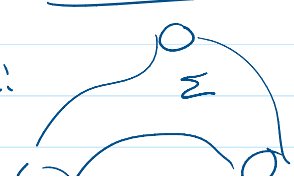
open exact symp mfolds, convex and cylindrical at ∞.

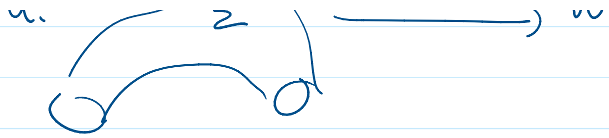
$SH_*(W)$ which knows the periodic orbits of hamiltonians.

①  $SH_*(W) \otimes SH_*(W) \longrightarrow SH_*(W)$.

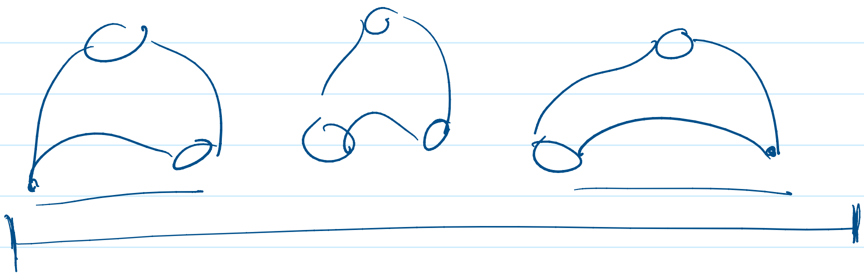
② Δ operation: "rotates the orbits"

coproduct:

$u:$  $\longrightarrow W$



[seidel] is highly degenerate.



⇝ lives in constant orbits.

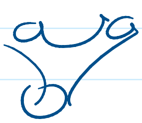
<u>Secondary operation</u>:

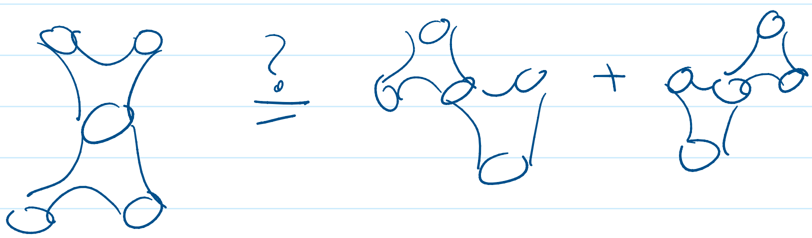
$$SH_+(W) \longrightarrow SH_+(W) \otimes SH_+(W)$$

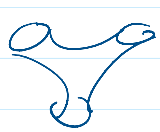
parameterized by the unit interval.

" interpolates between the degenerate solutions.

$SH_+(W) = SH_+(W) / \text{constant orbits}$.

(1) product  does not descend to $SH_+(W)$.



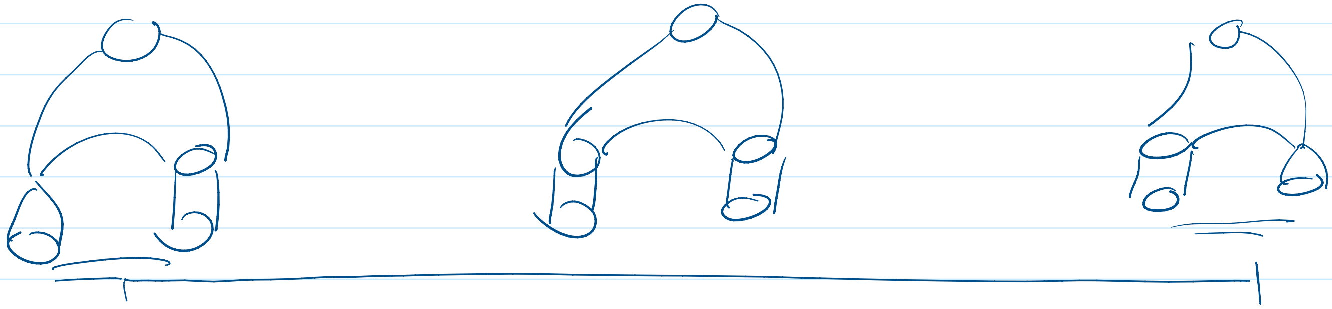
(2) chas-sullivan string topology product , a homotopy invariant.

but recent results by Florian Naef,

Goresky–Hingston coproduct is <u>not</u> a homotopy invariant. (knows about simple homotopy types).

invariant. (knows about simple homotopy types).

Coproduct str on $SH_+(W)$:

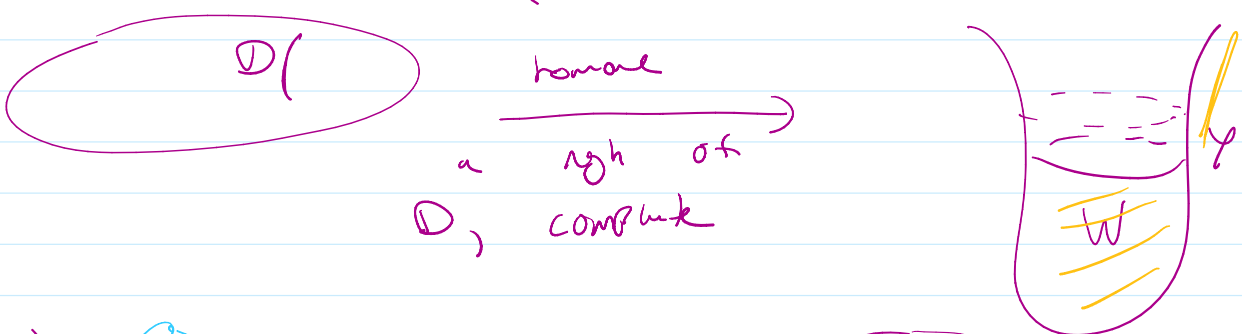


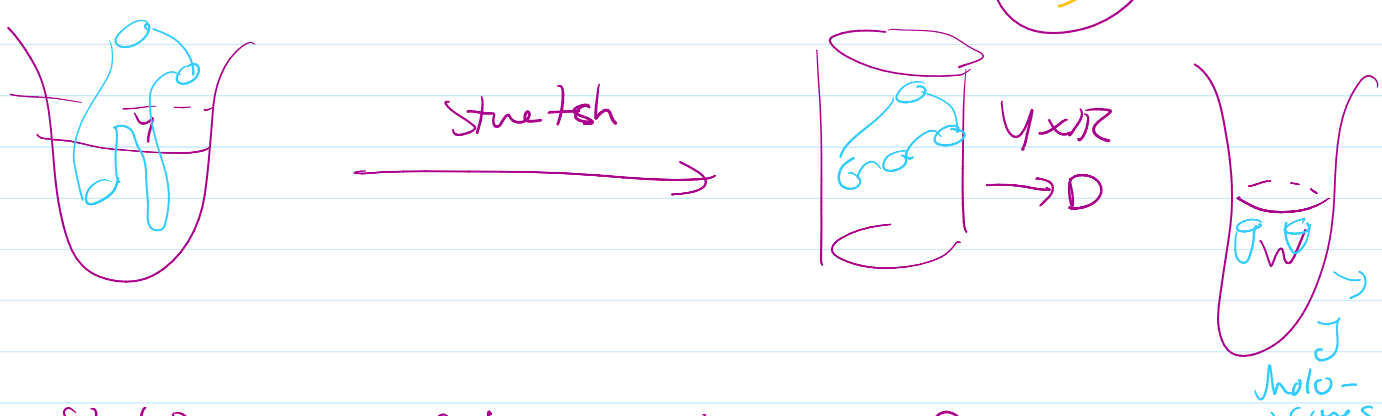
can collapse the ∂ terms, and get an operation parametrized by S^3.

$$SH_+(W) \longrightarrow SH_+(W) \otimes SH_+(W).$$

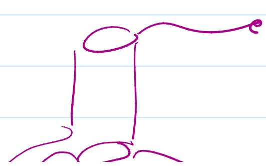
computation for complements of smooth divisors, [Diogo, Lisi].

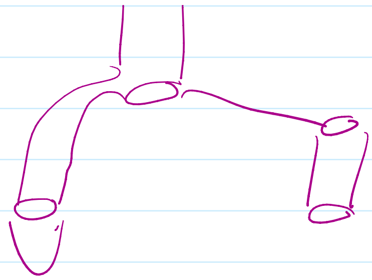
(X,D) is a monotone pair.

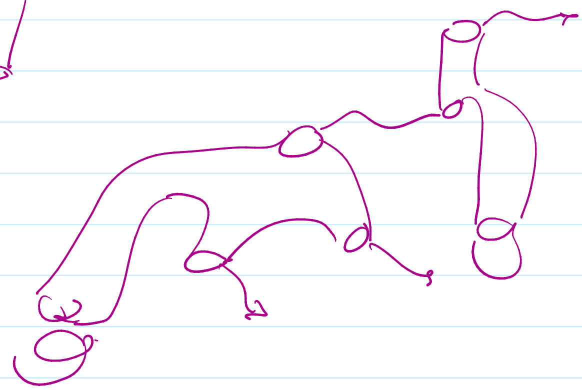




$SH_+(W) \rightsquigarrow$ GW invariants of D,
GW invariants in X relative to D







For the coproduct,

you only need to consider