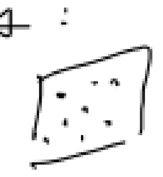
These representatives of H^* arising from FN cells are "Schubert style" char classes:

Ex $\tilde{Y} \subseteq Y \times \mathbb{R}^q$ fiber: 

$\downarrow$ 8-sheeted cover

Y

Then consider the subtmfld of Y over which 2 pts share 3 coords..

4 . — 1

break into 2-subsets

Codim 8 submfld of $Y \Rightarrow H^8$.

Open question: Barratt-Priddy (Quillen-Segal)

$BS_\infty \subseteq \varinjlim \Omega^n S^n$

$H_* \cong$

Know char classes given here.

What are they given here?

An answer would lead to similar for $H^*(MTSO(2))$

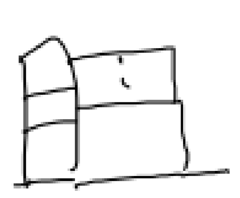
(stable surface bundles)

Warning: In Giusti-Sinha's on Fox-Neuwirth cells assume but don't prove that the diagrams one can associate to cocycles agree w/ Skyline diagram reps.

Ex 2 pts share 3 coords

4 pts share 1

break up into 2 gps share 1.



In general, this will differ from "corresponding" Hopf ring element.

First case $[\,]^3 \neq$ geometric $= $ Hopf ring

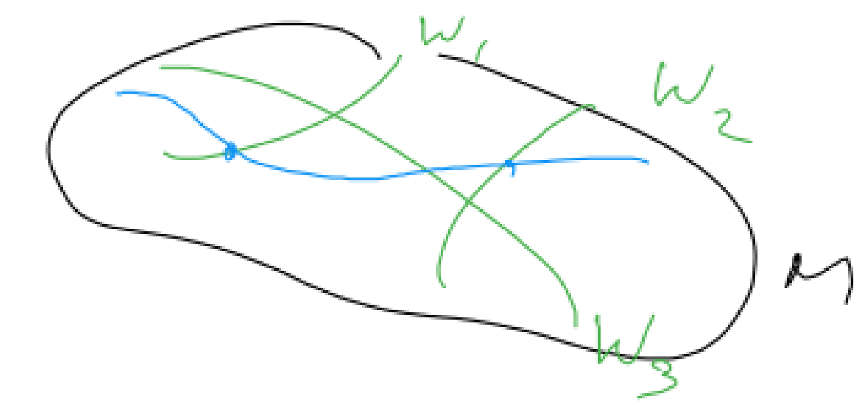
$\gamma_{1(2)}$ 2 sets of 2 share 3-coords.

Recall bar construction arises for $C^* \Omega M$.

$|\tau_{w_1}|\tau_{w_2}|\dots|\tau_{w_k}| \longleftrightarrow$ τ of "subrfld" of ΩM of $\gamma \in \Omega M$

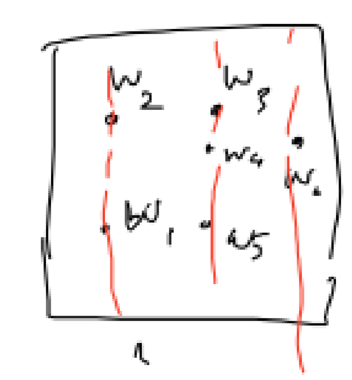
s.t. $\exists\, t_1, \dots t_k$ w/

$\gamma(t_1) \in W_1, \dots, \gamma(t_k) \in W_k$.



Conjecture Can use Fox-Neuwirth cells with labels in cochains in M to model $C^*(\Omega^d M)$

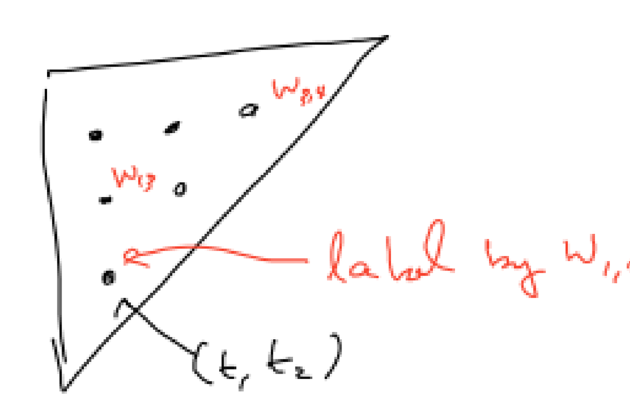
w/ $d <$ conn (M).



$I^d/\partial \longrightarrow M$

For general simp'l complex domains:

Ex For every 2-simplex in X, fix k., choose $\binom{k}{2}$ subsubmanifolds $W_{i,j}$



$t_1 \leq t_2 \leq \dots t_k$

asking that $\exists\, t_1, \dots t_k$ s.t. f sends

$(t_i, t_j) \longrightarrow W_{i,j} \subseteq M$.

defines a "submfld of $\mathrm{Map}(X, M)$.

$\rightsquigarrow$ Anderson spectral sequence.