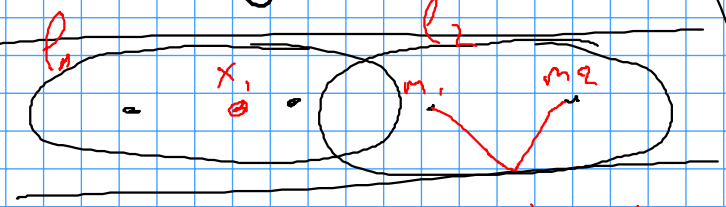
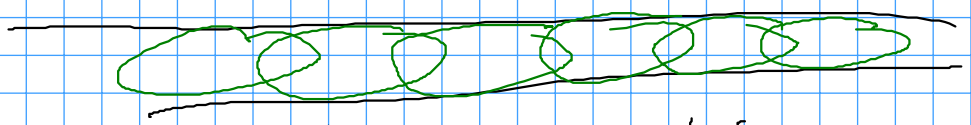
Clustering for mapping

selection regions

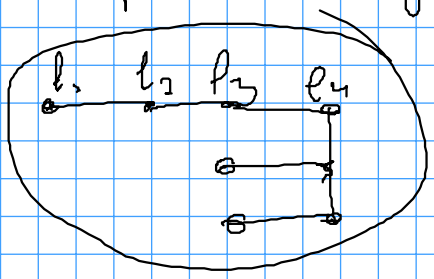


indicator function

$S = h(x_i, l_i) = \frac{p(x_i, m_1) + p(x_i, m_2)}{2}$



ellipse $\Rightarrow$ longer regions | fence coverage



group of locations (G_ℓ)

Alg (x_i, l_i):

$l'_{i+1} = \text{get Adj}(G_\ell, l_i)$ $\quad l_1 \to l_2$, $l_2 \to l_1, l_3$

$\{S\} = h(x, l')$

if $S < S_{curr}$

reassign current

else: store $[curr, min+1$ (2nd min$)]$

solve with coverage

after assigned subregions

after assigned subregions/clusters:

forall clusters:

add factors of NEW tracklets to graph:

1. drop tracklet is length << threashold
2. calc distance betw points foreach (tr_i, tr_j)
3. points with least distance for each tracklet are added as factors

4. solve graph minimization QP ->> resulting graph
5. graph to image conversion ->> for localization applications