PEER REVIEW FORM

Overall assessment.

	weak	satisfactory	strong
Contents • covering • relevance	X		
Presentation • guiding the reader • flow of ideas • type-setting and spelling		X	
Evidence • credibility • correctness	X		
Overall effectiveness	X		

Specific comments on contents. About the repport :

- page 2 : you could have given the definition of the Markov chain
- page 3 : you could have given the probability density : $\mathcal{P}(X_0 \in A) = \chi$ and $\mathcal{P}(X_{n+1} in | X_0, \ldots, X_n) = Q_n(X_n; B)$
- page 7 : why talk about the SISR weights distribution and efficient sample size with SISR as the weights are resampled at each iteration ?
- page 8 : how do you compute $f_\zeta(\mathbf{y}_{0:m})$? You should have explained how and why you use Z=mvnpdf(Y',90-30*log10(pdist2(tau',pos_vec')), v*v*diag(ones(6,1))); p=sum(log(Z)); as your estimator for $f_\zeta(\mathbf{y}_{0:m})$?
- additions : investigate the drivers action with the SISR approximation

About the code :

- SISR : when running the SISR code with the RSSI data you get a very different result each time, the algorithm does not provide numerically stable approximations, this is a good indication that something is wrong
- P3,P4,P5 : YmN = repmat(Y(:,k+1),1,N); what is this variable used for ?
- SISR : at each iteration, you associate to all particles the same predefined driving command (zM = repmat(pZ*States(:,simulate_Z(k)),1,N); where simulate_Z is defined before the main loop as simulate_Z = simulate(dtmc(P),n);). The pair (Xn,Zn) forms the Markov chain, so when you build a particle it as to be a particle for the pair (Xn,Zn)
- SISR : at the resampling step, no selection of the zM corresponding to the selected particles (as (Xn,Zn) is the Markov chain)
- general comments : avoid copy-pasting code, store constants in variables instead of copying numerical values, when naming new function, be careful no to use built-in Matlab function names to avoid confusion for the reader, comment your code more
- good point : efficient code and good use of Matlab built-in functions

Specific comments on presentation.

- page 3 : for the simulation of the trajectory, the graph could have been centered on the starting point
- page 5 : on the graph, you could have use points instead of lines, the graph would have looked cleaner
- page 5 : you could have given the scale on figure 3 (same on page 7 for figure 7
- minor typo errors

Specific comments on evidence.

- no sanity check to be found either in the Matlab code nor in the repport
- when running the SISR code multiple times, we get very different estimated trajectories, no consistent solution for SISR and SISR with unknown data, the algorithm provide no numerically stable approximation