

ATLAS codes are tested on Crossky&Maggioni smooth potential in 2D.

To go through the construction you need to make the following steps.

(1) Run ***MakeDeltaNet.m*** to make the input file delta_net_CM2D.mat.

If delta_net_CM2D.mat exists you may skip this step.

Functions called:

CMpot2D.m

CMgrad2D.m

(2) Run ***learn_atlas.m***.

Input files: delta_net_CM2D.mat

Output files: LearnedSimulator_CM2D.mat

Functions called:

simulator.m

CMpot2D.m

CMgrad2D.m

LMDS.m

(3) Run ***run_atlas.m***.

Input files: LearnedSimulator_CM2D.mat, delta_net_CM2D.mat

Output files: TswitchCM2D.mat

Functions called:

CMgrad2D.m.

(4) To obtain the switching times produced by the original simulator, run

find_switch_times.m.

Input files: delta_net_CM2D.mat, TswitchCM2D.mat

Output files: OriginalTswitch.mat

Function called:

CMpot2D.m

CMgrad2D.m

(5) To make stats and to plot bar graphs of switch times, run ***MakesStats4Atlas.m***

Input files: TswitchCM2D.mat, OriginalTswitch.mat