



$\| \cdot \|_{L^2(\mathbb{R}^n)} = \text{the standard } L^2 \text{ norm}$





$\vec{t}_G \perp \vec{t}_G$  homogeneous iff the transition probabilities

$\vec{t}_G \perp \vec{t}_G$  directed ed



?























$\tilde{\ell}^{\frac{1}{2}} \tilde{\ell}^{\frac{1}{2}} \pi^n$  is the evolution of the probabilit

















$\bar{t}_i \geq \bar{t}_2$  small difference

$\bar{t}_i \geq \bar{t}_2$  the third item is not a stopping time, because





Homogeneity is in

In homogeneous MC, what's important is that

$\{x_l\}_{l=1}^{\infty}$  is the sequence of traje

$$i\ell^{1/2}i\ell^{1/2}\backslash\tau_F \text{ is ti}$$

$\frac{1}{2} \frac{1}{2}$  " One step for







$\frac{1}{2}$  binary probability (cannot have a prob

$$\bar{l}_{\ell}^{1/2} \bar{l}_{\ell}^{1/2} (\text{direc}$$











































$\frac{1}{2}I_2$  If we have two invariants proba distr, then everyt

$\frac{1}{2}I_2$  because any convex combination of two invar

$\frac{1}{2}$  All MC that is recurrent is positive recurrent. The case of null recurrent

$\frac{1}{2}$  there is a positi











$\mathbb{C}^{\frac{1}{2}} \times \mathbb{C}^{\frac{1}{2}}$  Recall that the 1D homoclinic



$t_i$  being "only recurrent

$t_i$  is the time spent in state  $i$ . If  $E_i(T_i)$

!



$\tilde{t}_{\ell^{\frac{1}{2}}\ell^{\frac{1}{2}}\pi}$  is the invari

$\tilde{t}_{\ell^{\frac{1}{2}}\ell^{\frac{1}{2}}\lambda_2}$  is the second

$\ell^{\frac{1}{2}}\tilde{\ell}^{\frac{1}{2}}$  This theorem gives information about the asymptoti

!

$\ell^{\frac{1}{2}}\tilde{\ell}^{\frac{1}{2}}$  stationary

$\ell^{\frac{1}{2}}\tilde{\ell}^{\frac{1}{2}}$  this is stronger tha



$\ell^1$  "intuitively", on the left hand side, w









