$$P_0^{\pi}(s) = \nu_0(s)$$

$$\nu^{\pi}(s) = (1-\gamma)\sum_{t=0}^{\infty}\gamma^t P_t^{\pi}(s)$$ ← 状态访问分布

state visitation dist.

$$S = \{s_1, s_2 \cdots s_n\}$$

$$\sum_{i=1}^{n}\nu^{\pi}(s_i) = (1-\gamma)\sum_{i=1}^{n}\sum_{t=0}^{\infty}\gamma^t P_{\pi}^t(s_i)$$

$$= (1-\gamma)\sum_{t=0}^{\infty}\gamma^t \boxed{\sum_{i=1}^{n} P_{\pi}^t(s_i)} = 1$$

$$= (1-\gamma)\sum_{t=0}^{\infty}\gamma^t$$

$$= (1-\gamma)\cdot\frac{1}{1-\gamma} = 1$$

$$\sum_{s\in S}\nu^{\pi}(s) = 1$$

$$\rho^{\pi}(s,a) = (1-\gamma)\sum_{t=0}^{\infty}\gamma^t P_t^{\pi}(s)\pi(a|s)$$ ← 占用度量

occupancy measure

对比 $\nu^{\pi}(s) = (1-\gamma)\sum_{t=0}^{\infty}\gamma^t P_t^{\pi}(s)$

存在关系式

$$\rho^{\pi}(s,a) = \nu^{\pi}(s)\pi(a|s)$$