**INTRODUCTION**

MOBILE edge computing (MEC) has been an effective paradigm for supporting computation-intensive applications with low latency requirements in vehicular networks by offloading resources at network edge

MOBILE edge computing (MEC) has been a practical paradigm for supporting computation-intensive applications with low latency requirements in vehicular networks by offloading resources at the network edge

**which greatly reduces task completion delay.**

**边缘计算不同于云计算，云数据中心往往距离终端较远，于是使用边缘计算分散一部分云计算的压力刻不容缓。**

**对于一些紧急而且所需要CPU周期数相对较小的任务，可以优先使用边缘计算以减小数据任务的延时**

**Ⅱ MEC-enable vehicle network**

**A.系统模型**

In this paper, We consider A IoV edge computing network, consisting of a cloud computing layer, MEC layer, as shown in Fig. 1. For MEC layer,which has moderate computation capacity and deploys close to networks, can be used to assist the vehicles. Cloud computing layer,can be used to process the large-scale, delay-insensitive data that MEC layer can not process。

《Reinforcement Learning》。numerous vehicle-to-RSU (V2I) cells underlay a cell. in which each RSU is equipped with a MEC server to provide computation offloading services to the vehicles，To avoid inter-cell interference, the time division multiple access (TDMA) communication technology is adopted. Time resource is divided into multi-frames, and each frame is divided into several time slots. Different VUEs access its time slots when they communicate with the RSU, and signal transmission in different time slots will produce no interference [10].《su03》.We denote the set of vehicles and MEC servers in the mobile system as V = {1, 2,...,V} and M = {1, 2,...,M}, respectively. 《joint》Some notations are given in Table II.

**B. 通信模型**

Different from the traditional cellular communication,Due to the fast mobility of vehicles, their CSIs are hard to be estimated precisely. In particular, RSU can only achieve the accurate knowledge of large-scale fading $ $ of vehicular to RSU links while the small-scale fading $$ is greatly influenced by the fast channel variations caused by the Doppler effect. We assume that such CSIs is obtained through channel estimation 《eeh》, Therefore, we model the small-scale fading channel estimation of $$ by using the first-order Gauss–Markov process [27] in each TTI as follows.《小帅》



we assume that the estimated channel gain denotes the estimate of and is exponentially distributed with unit mean [33]. Furthermore, represents the correlation coefficient over v → m link, and stands for the channel gain and follows a complex Gaussian distribution ，and independent and uncorrelated of . The coefficient (0 << 1) quantifies the channel correlation between the two consecutive time slots and we assume that time correlation coefficient is same for all VUEs. According to the Jakes statistical model for the fading channel [28], is given as

(4) where is the zero-order Bessel function of the first kind.

= is the maximum Doppler frequency, where indicates the vehicle speed,