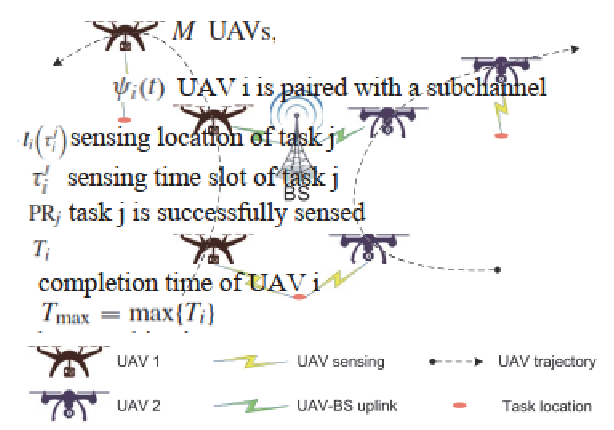
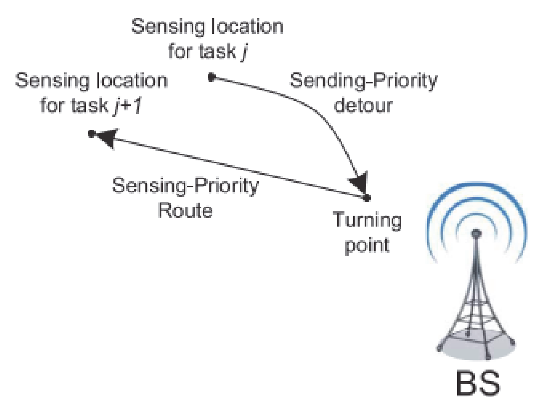
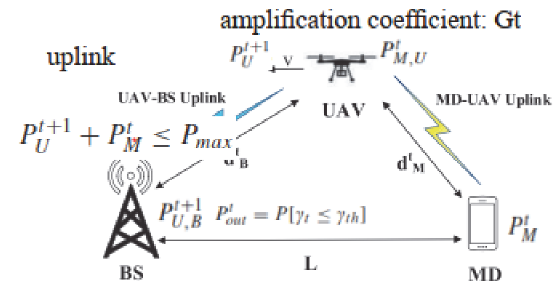
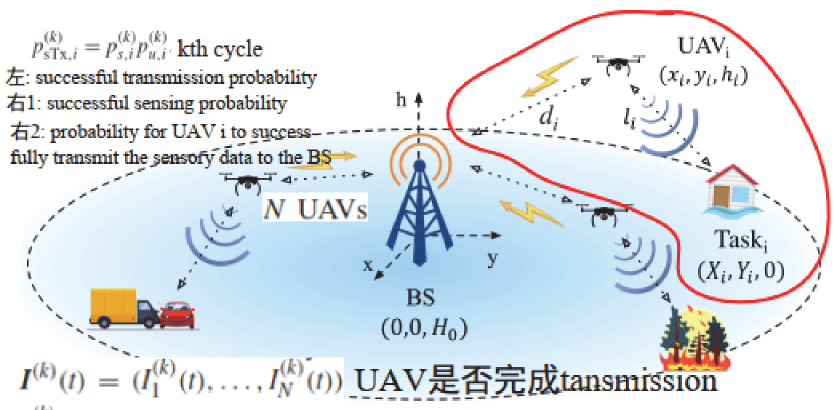
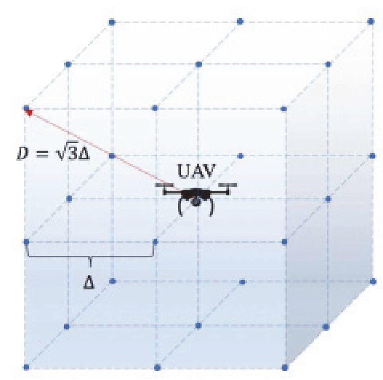
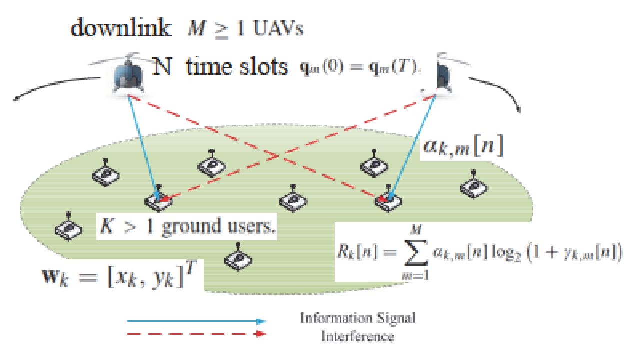
文献列表

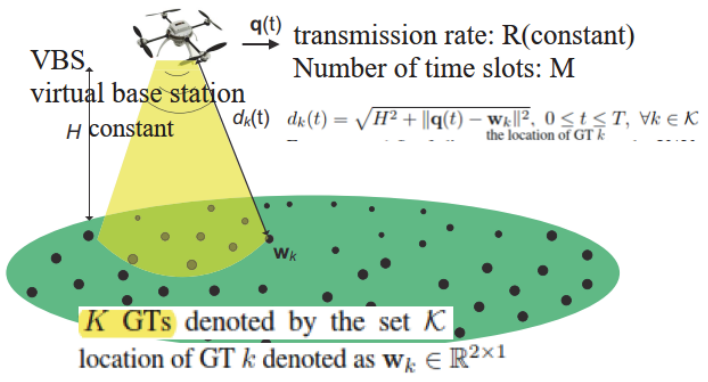
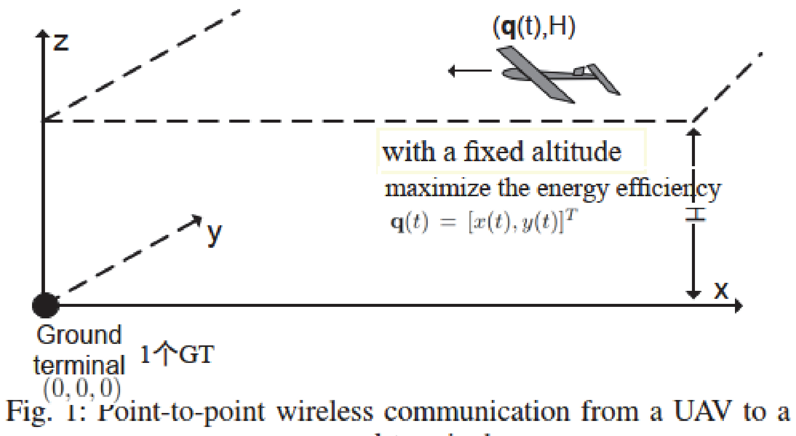
2021年2月15日 14:56

作者 SLY

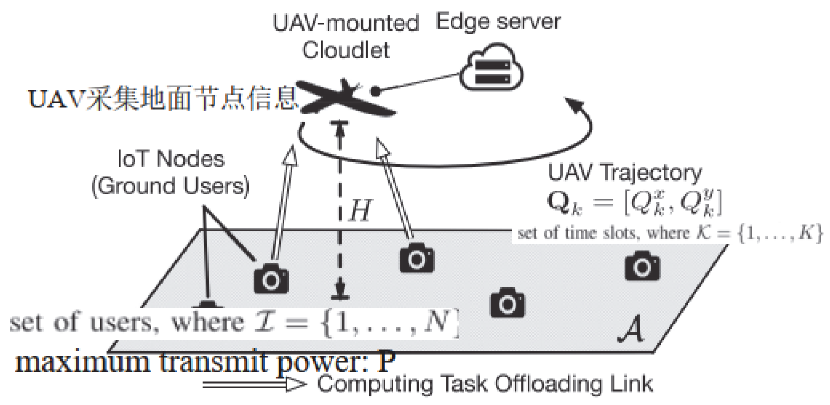
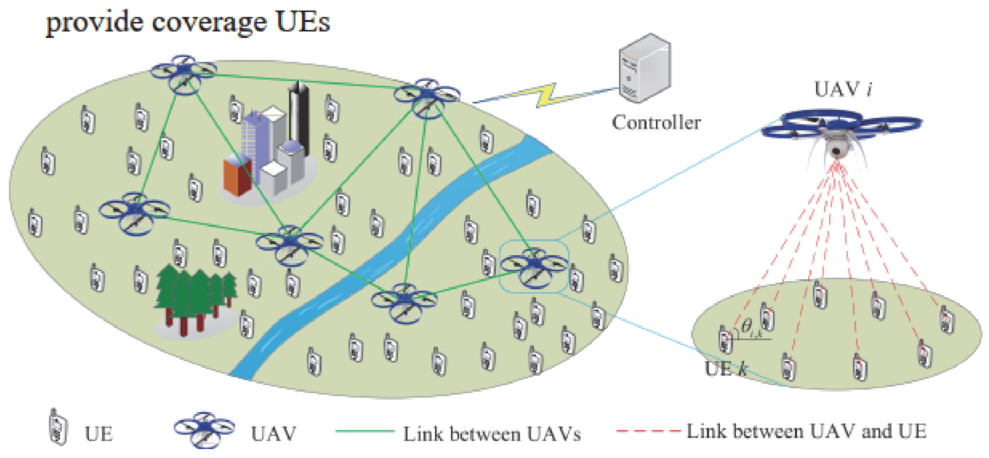
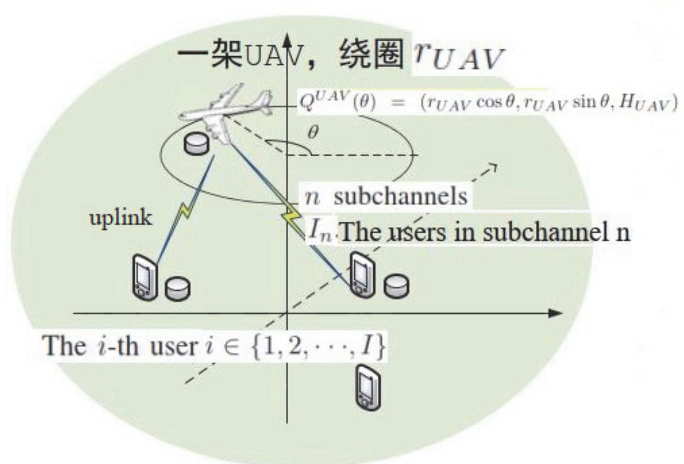
编号	文献名	作者	期刊	年份	场景	方法	引用量	评价
1	Cellular Cooperative Unmanned Aerial Vehicle Networks With Sense-and-Send Protocol	Shuhang Zhang Hongliang Zhang	IEEE Internet of Things Journal	2019.4	 Fig. 1. System model for UAV sensing and transmission. 优化目标 $T_{\max} = \max\{T_i\}$ $\min_{\{v_i(t), l_i(\tau_i^j), \psi_i(t)\}} T_{\max}$ (12a) 优化指标分别是: 速度（UAV轨迹）, sensing location, scheduling(subchannel allocation)	联合优化 **while** $T_{max}\left(\{v_i(t)\}^{r-1}, \{l_i(\tau_i^j)\}^{r-1}, \{\psi_i(t)\}^{r-1}\right) - T_{max}\left(\{v_i(t)\}^{r}, \{l_i(\tau_i^j)\}^{r}, \{\psi_i(t)\}^{r}\right) > 0$ **do** $r = r + 1$; Solve the trajectory optimization sub-problem, given $\{l_i(\tau_i^j)\}^{r-1}$ and $\{\psi_i(t)\}^{r-1}$; Solve the sensing location optimization sub-problem, given $\{v_i(t)\}^{r}$ and $\{\psi_i(t)\}^{r-1}$; Solve the UAV scheduling sub-problem, given $\{v_i(t)\}^{r}$ and $\{l_i(\tau_i^j)\}^{r}$; **end** **Output:** $\{v_i(t)\}^{r}, \{l_i(\tau_i^j)\}^{r}, \{\psi_i(t)\}^{r}$; 1) trajectory optimization; 2) sensing location optimization; 3) UAV scheduling 	31	1. sensing 过程只用一个time slot是否合理 2. 没有进行任务分配，UAV执行哪些任务都是事先确定的 3. 无论是否sense成功都要将信息回传不太合理，详见第3条 4. Therefore, the sensory data of each task is collected by a predefined UAV group cooperatively, and the UAVs in this group send the collected data to the BS separately. 文中每个UAV执行哪几个任务是确定的，但是执行顺序未定。可以考虑进行任务分配。
2	Joint Trajectory and Power Optimization for UAV Relay Networks	Shuhang Zhang Hongliang Zhang	IEEE Communications Letters	2018.11	amplification coefficient: Gt uplink $P_U^{t+1} + P_M^t \le P_{max}$  Fig. 1. System model for communication with UAV relay. 优化目标 outage probability $P_{out}^t = P[\gamma_t \le \gamma_{th}]$ $\min_{P_M^t, P_U^{t+1}, d_M^t, d_B^{t+1}} P_{out}^t$	**Algorithm 1** Power and Trajectory Optimization Algorithm 1: **Initialize** $k = 0$, $S^0 = 0$, $P_M^t = P_U^{t+1} = P_{max}/2$, $\forall t = 1, 3, \cdots, N$; 2: **Repeat** 3: $k = k + 1$; 4: **For** $t = 1 : N$ 5: Solve trajectory design subproblem (10) for slot t; 6: **For** $t = 1 : N$ 7: Solve power control subproblem (12) for slot t; 8: **Until** $S^k - S^{k-1} \le \epsilon$	16	虽然只有1个用户和1个UAV，但是同时考虑了从用户接收信息并转发，UAV把接收到的功率放大，起到了relay的作用
3	Reinforcement learning for decentralized trajectory design in cellular UAV networks with sense-and-send protocol	Jingzhi Hu	IEEE Internet of Things Journal	2019.8	$p_{sTx,i}^{(k)} = p_{s,i}^{(k)} p_{u,i}^{(k)}$ kth cycle 左: successful transmission probability 右1: successful sensing probability 右2: probability for UAV i to successfully transmit the sensory data to the BS  $I^{(k)}(t) = (I_1^{(k)}(t), \ldots, I_N^{(k)}(t))$ UAV是否完成tansmission $v_i^{(k)}(t)$ is the *channel allocation indicator* for UAV i Fig. 1. Illustration on the single-cell UAV network, in which UAVs perform real-time sensing tasks. 每个UAV对应一个任务，任务不动，UAV飞到离任务近的地方先去sense（但是UAV不知道是否接收成功），sense成功后飞向BS传输信息，相当于relay 优化目标: 每个UAV对应一个U_i ness requirements of real-time sensing tasks. Therefore, at the beginning of kth cycle, the utility of UAV i is defined as the *total discounted rewards* in the future, and can be denoted as $U_i^{(k)} = \sum_{n=0}^{\infty} \rho^n R_i^{(k+n)}$ (12) in which $R_i^{(k)}$ denotes the reward of UAV i in the kth cycle, and $R_i^{(k)} = 1$ if valid sensory data is successfully transmitted to the BS by UAV i in the kth cycle, otherwise, $R_i^{(k)} = 0$.	Q-learning 	16	1. 一个UAV对应一个固定的任务，任务分配是定好的，但是可以考虑让UAV对应多个任务，另外UAV可以合作，进行任务分配。 2. UAV不知道是否从用户处接收成功是不太合理的。其实实际上是可以通过一些ack信号来确认是否接收成功的。
4								

作者ZY

编号	文献名	作者	期刊	年份	场景	方法	引用量	评价
1	Joint Trajectory and Communication Design for Multi-UAV Enabled Wireless Networks	Qingqing Wu（澳门大学，2020 Google引用量3000+），Yong Zeng（东南大学 Southeast University）	IEEE Transactions on Wireless Communications	2018.3	downlink $M \ge 1$ UAVs  优化 平均信息率R_k的下限 $\eta(\mathbf{A}, \mathbf{Q}, \mathbf{P}) = \boxed{\min_{k \in \mathcal{K}} R_k}$ as a function of $\mathbf{A}$, $\mathbf{Q}$, and $\mathbf{P}$. The optimization problem is formulated as $\max_{\eta, \mathbf{A}, \mathbf{Q}, \mathbf{P}} \boxed{\eta}$ mixed-integer non-convex problem (15a) A: association Q: trajectory s.t. $\frac{1}{N} \sum_{n=1}^{N} \sum_{m=1}^{M} \alpha_{k,m}[n] \log_2(1 + \gamma_{k,m}[n]) \ge \eta, \quad \forall k,$ P: power 其中 Thus, the achievable average rate of user k over N time slots is given by $R_k = \frac{1}{N} \sum_{n=1}^{N} R_i[n]$.	1. User Scheduling and Association Optimization: standart LP 2. UAV Trajectory Optimization: successive convex optimization 3. UAV Transmit Power Optimization: successive convex optimization	445	1. 方法是很多文献都采用了的SCO方法，其要以Taylor展开把非线性函数近似成一次函数，然后引入松弛变量使问题变成凸优化问题。 2. 优化平均信息率的下限可能并不太合理，所有GT的平均信息率更能代表整体性能

2	Trajectory Design for Completion Time Minimization in UAV-Enabled Multicasting	Yong Zeng	IEEE Transactions on Wireless Communications	2018	multicasting system 需要在M个slot内把L个packet需要传送给用户  Fig. 1: UAV-enabled information multicasting. GT k成功收到N'个packet的概率要大于某一个阈值 优化目标: completion time $\text{(P1)}: \min_{\mathbf{q}[m],M} M$ completion time 常数 s.t. $P_{k,\text{succ}}\ge \bar{P},\ \forall k\in\mathcal{K},$ (12) $\|\mathbf{q}[m]-\mathbf{q}[m-1]\|\le \tilde{V}_{\max},\ m=2,\cdots,M.$ (13) 常数	1. 成功接收概率不小于门限-->定义D，到GT k的距离不小于D的slot数量不少于M_{min} he constraint that the number of connection time slots between the UAV and each GT should be no smaller than the minimum threshold M_{min} 2. UAV trajectory only needs to constitute connected line segments 3. unnecessary for the UAV to fly over all the GTs, 转化为deployment问题，find a minimum number of VBSs and their respective locations，然后让UAV去遍历这些位置 4. reduces to finding the optimal instantaneous UAV speed over time along the path connecting these waypoints	206	目前场景考虑的是单无人机，固定高度(H)，未有地面基站参与，未来可考虑多UAV
3	Energy-efficient UAV communication with trajectory optimization	Yong Zeng	IEEE Transactions on Wireless Communications	2017.6	 Fig. 1: Point-to-point wireless communication from a UAV to a ground terminal.	能耗最优是匀速直线轨迹，sum-rate最优是静止不动。优化能耗和优化sum-rate是矛盾的，需要tradeoff 假设UAV围绕圆形轨迹飞行	836	1. 能耗的公式可以参考 2. 只有1个GT不切实际 3. 为什么很多文章假设飞圆形轨迹的依据 4. 静止不动时运动能耗趋于无穷，是fixed-wing UAV
4								

其他作者

编号	文献名(title)	作者(author)	期刊(journal)	年份	场景	方法	引用量	评价
1	Energy-Efficient UAV-Assisted Mobile Edge Computing: Resource Allocation and Trajectory Optimization	Mushu Li (Univ of Waterloo, ca)	IEEE Transactions on Vehicular Technology	2020.3	 优化 UAV的energy efficiency $\max_{\boldsymbol{\delta},\mathbf{W},\mathbf{Q}} \eta=\frac{\sum_{i\in\mathcal{I}}\sum_{k\in\mathcal{K}}R_{i,k}(\boldsymbol{\delta}_k,\mathbf{Q}_k)}{\sum_{k\in\mathcal{K}}\sum_{i\in\mathcal{I}}E_{i,k}^{C,U}(\mathbf{W}_k)+\sum_{k\in\mathcal{K}}E_k^F(\mathbf{Q})}$ (14) users time slots energy consumption user功率 发送的文件大小 UAV位置s.t. $\|\mathbf{v}_k(\mathbf{Q})\|_2\le v_{max},\ \forall k,$ (14a)	1.Successive Convex Approximation 2.Dinkelbach Algorithm 3.Sub-Problem Decomposition by ADMM	15	1. 方法复杂，符号多 2. UAV的计算耗能公式可以参考
2	Deployment Algorithms for UAV Airborne Networks Toward On-Demand Coverage	Haitao Zha o(大连理工) Jibo Wei (Peng Cheng Laboratory, 深圳)	IEEE Transactions on Vehicular Technology	2018.9	The UAVs will form a bi-connected airborne network provide coverage UEs  对地通信覆盖+空中组网，最小化 UAV的数量 $\min \sum_{i=1}^{N} a_i$,whether the candidate UAV i is active	heuristic	75	UAV空中组网值得借鉴，施加了两条限制条件：(1) UAV和UAV之间的通信链路是双向的，如果1能和2通信，那么2也能和1通信1 (2)每个UAV都要和至少一个其他UAV相连
3	Subchannel Assignment and Power Optimization in Caching based UAV Networks With NOMA	Yabo Li, Haijun Zhang (北京科技大学，北京市融合网络与泛在业务工程技术研究中心)	2020 IEEE International Conference on Communications (ICC)	2020	 优化目标 non-convex optimization problem. 总data-rate cache带来的收益 $\max_{A,\beta,P} EE=\max \sum_{I}\sum_{N} \frac{a_{i,n}r_{i,n}+a_{i,n}q_i\xi_{UAV,i}\phi_i}{UT_i(a,p)}$	matching process based on subchannel state information, ADMM 优化power allocation	0	1.1架UAV环绕的场景不少见，但是无人机位置变化对信道质量的影响在文中好像在优化的时候被忽略了 2.一个信道上有多个用户，但是计算SINR时没有考虑SIC（干扰只来自于channel gain比当前用户差的用户） 3.既然考虑了cache容量限制，但是求解时又忽略
4								