不同论文上Frank-Wolfe算法所得结果的小结

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表 1: 不同假设下,Frank-Wolfe算法收敛速度的比较

参考文献	可行域的条件	目标函数的条件	收敛速度
Jaggi,Martin,2013, [1],Robert M. Freund,Paul Grigas,2014, [8]	凸	凸	$\frac{1}{t}$
Dan Garber,Elad Hazan,2015, [2]	强凸	强凸	$\frac{1}{t^2}$
GuéLat,Jacques,Marcotte,1986, [3]	多面体	强凸	$\exp(-\Theta(t))$
Beck,Amir,Teboulle,2004, [4]	凸	$f(x)=\|Ax-b\|_2^2$	$\exp(-\Theta(t))$
Dunn,Joseph C,1979, [5]	强凸	$\|\nabla f(x)\| \geq c > 0, \forall x \in K$	$\exp(-\Theta(t))$
Jarrid Rector-Brooks,Jun-Kun Wang,Barzan Mozafari,2019, [6]	光滑,凸	强凸	较大的可能性为$\frac{1}{t^2}$
	局部Lipschitz,梯度的范数有下界	严格局部拟凸	$\max(\frac{2\kappa}{\theta\varepsilon^2}, \frac{8L\kappa}{\theta\varepsilon^3})$
	强凸	非凸,光滑	较大的可能性为$\frac{1}{t}$
Lacoste-Julien,2016, [7]	凸	非凸	$\frac{1}{\sqrt{t}}$

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