## Cumulated regrets for different bandit algorithms, averaged 1000 times

9 arms:  $[B(0.1), G(0.1, 0.05), \text{Exp}(10, 1), B(0.5), G(0.5, 0.05), \text{Exp}(1.59, 1), B(0.9)^*, G(0.9, 0.05)^*, \text{Exp}(0.215, 1)^*]$ Aggregator(N=6) Exp4(N=6)CORRAL(N=6, broadcast to all) LearnExp(N=6,  $\eta=0.9$ ) 175  $UCB(\alpha = 1)$ Thompson KL-UCB(Bern) KL-UCB(Exp) KL-UCB(Gauss) BayesUCB Lai & Robbins lower bound =  $7.39e + 07 \log(T)$ 125 Cumulated regret  $R_t = t \mu^*$ 100 75 50 25 0 10<sup>3</sup> 10<sup>2</sup>  $10^{4}$ Time steps t = 1...T, horizon T = 20000