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Eric Chirtel*, emc4tg@virginia.edu, and **Juergen Kritschgau** and **Kota Kageie**. *An Application of Quantum Annealing to the Bike Share Re-balancing Problem.*

Quantum annealing has been used to find good solutions to hard combinatorial optimization problems (Lucas 2014). In this talk, we combine hybrid quantum annealing algorithms implemented on a D-Wave machine with greedy heuristics to solve the bike share rebalancing problem, also known as BSRP (Del amico et al 2014). We compare the accuracy and timing of our method to solutions found via classical methods for a set of benchmark BSRP problems. In particular, we compare classical and quantum implementations of clustering heuristics that are used in capacitated vehicle routing problems (Feld et al 2019). (Received September 17, 2019)