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Justin Hilburn* (jhilburn@perimeterinstitute.ca), **Benjamin Gammage**, **Mikayel Mkrtchyan**, **Matej Penciak** and **Alex Sherman**. *Elliptic Coulomb Branches*. Preliminary report.

When studying irreducible components of the moduli space of vacua for supersymmetric gauge theories one is often lead to study new and interesting classes of algebraic varieties. For example Nakajima quiver varieties and Cherkis bow varieties arise as the Higgs and Coulomb branches respectively of 3d $\mathcal{N} = 4$ quiver gauge theories.

More generally, Braverman, Finkelberg, and Nakajima have given a construction of the ring of functions on the Coulomb branch of an arbitrary 3d $\mathcal{N} = 4$ gauge theory as a certain cohomological convolution algebra. It is a physical heuristic that this construction can be extended to 4d $\mathcal{N} = 2$ and 5d $\mathcal{N} = 1$ theories by replacing ordinary cohomology with K-theory or elliptic cohomology.

In this talk I will describe what is known about Coulomb branches of 5d $\mathcal{N} = 1$ theories. (Received September 17, 2019)