1154-05-528 **Oliver Clarke**, **Kevin Grace*** (kevin.grace@bristol.ac.uk), **Fatemeh Mohammadi** and **Leonid Monin**. *Minimally dependent matroids.* Preliminary report.

Let $\mathbb{F}$ be a field, and denote by $\mathcal{D}(M)$ the collection of dependent sets of a matroid M. Consider a collection $\mathcal{D}$ of subsets of a finite set E, and consider the problem of determining all $\mathbb{F}$-representable matroids M such that no $\mathbb{F}$-representable matroid $N \neq M$ exists with $\mathcal{D} \subseteq \mathcal{D}(N) \subseteq \mathcal{D}(M)$. We describe work on this problem for some specific cases. This work is motivated by problems in algebraic statistics. (Received September 16, 2019)