Ferronematic phase in ultracold dipolar Fermi gases\textsuperscript{1} BENJAMIN MUNOZ FREGOSO, EDUARDO FRADKIN, University of Illinois at Urbana-Champaign — We show \cite{1} that a homogeneous two-component Fermi gas with long range dipolar and short-range isotropic interactions has a \textit{ferronematic} phase for suitable values of the dipolar and short-range coupling constant. The ferronematic phase is characterized by having a non-zero magnetization and long range orientational uniaxial order. The Fermi surface of the majority component is elongated while the Fermi surface for the minority component is compressed along the direction of the magnetization.

\textsuperscript{1}B.M. Fregoso and E. Fradkin, Phys. Rev. Lett. 103, 205301 (2009)

\textsuperscript{1}Work supported in part by NSF DMR 0758462 and DOE DE-FG02- 91ER45439.