Electronic Structure and Magnetic Properties of CsFe$_2$Sb$_2$  DAVID J. SINGH, LIJUN ZHANG$^1$, ORNL — Iron based arsenide superconductors generally show higher critical temperatures than phosphides, while the antimonides cannot be studied because the corresponding compounds do not form. Within the ThCr$_2$Si$_2$ structure, BaFe$_2$As$_2$ and BaFe$_2$P$_2$ are known compounds, while BaFe$_2$Sb$_2$ is not. However, synthesis of CsFe$_2$Sb$_2$ was reported by Noack and Schuster in 1994. Here we report density functional studies of the electronic structure and magnetism in this material, as compared to the arsenide, KFe$_2$As$_2$. CsFe$_2$As$_2$ is found to be an antiferromagnetic metal with interesting similarities to the arsenides.

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