Single crystal growth and study the physical properties of non-centrosymmetric $\text{UIrSi}_3$ SHANTA SAHA, JOHNPIERRE PAGLIONE, Center for Nano Physics and Advanced Materials, Dept. of Physics, University of Maryland, College Park, Maryland — Heavy-fermion superconductivity in the non-centrosymmetric crystal structure has drawn much attention [1]. It is theoretically argued that the order parameter contains not only a spin-singlet part, but also an admixture of a spin-triplet state. The compound $\text{UIrSi}_3$ crystallizes in the non-centrosymmetric $\text{BaNiSn}_3$ structure which is closely related to the well-known $\text{ThCr}_2\text{Si}_2$-type [2]. Preliminary study on polycrystalline $\text{UIrSi}_3$ shows antiferromagnetic order below Neel temperature $T_N = 42$ K [2]. Its lanthanide analog $\text{CeIrSi}_3$ shows heavy-fermion superconductivity under pressure [1]. Therefore, further investigation on $\text{UIrSi}_3$ would be meaningful. We will present our attempt to grow single crystal of $\text{UIrSi}_3$ by Czochralski method in a tetra-arc-furnace and study of its physical properties.