Superconductivity in ZrAgxTe2 HELTON SANTANA, SERGIO RENOSTO, ANTONIO JEFFERSON MACHADO, Escola de Engenharia de Lorena, Universidade de Sao Paulo — Layered transition metal dichalcogenides of the type MX$_2$ (M is transition metal, X = S, Se, Te) have been studied for their electronic properties due to low dimensionality. In these materials each layer correspond to the hexagonal transition metal intercalated by two similar chalcogen sheets. In ZrTe$_2$ the prototype structure is CdI$_2$. The interaction of layers is weak as van der Walls bonding between chalcogen element (X). In general charge density wave and superconductivity coexist in these of materials. Indeed, various compounds of this material class exhibit this coexistence such as 2H-TaS$_2$, 2H-NbS$_2$ etc. Some results reported in literature about the electrical properties of ZrTe$_2$ show that this material presents metallic behavior at a temperature interval from 4.0 K to 300 K. In this work we present results about intercalation of silver in the ZrTe$_2$ compound. The results suggest that the intercalation of Ag also is able to induce superconductivity in this compound. The superconducting critical temperature close to 9.0 K is revealed through of magnetization and resistivity measurements. The x-ray result reveals a new compound, originating from Ag intercalation and crystallizes in the LiCrS$_2$ prototype structure.