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**Electron microscopy of sillenites** CRAIG SCURTI[1], NICOLAS AUVRAY, Department of Physics. University of North Florida., MICHAEL LUFASO, Department of Chemistry. University of North Florida., HIDEO KOHNO, Department of Physics. Osaka University., DANIEL ARENAS, Department of Physics. University of North Florida. — In this undergraduate project, the student performed transmission and scanning electron microscopy measurements on two sillenite compounds: $Bi_{12}SiO_{20}$ and $Bi_{25}InO_{39}$. To our knowledge, the electron diffraction patterns of sillenites have not been reported in the literature before. Our preliminary results show that both the tetravalent and trivalent compound have the sillenite structure. Using concepts from undergraduate solid state physics, the student will explain how the electron diffraction patterns were analyzed.

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