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My research is to test the performance of the one-dimensional KTN (Potassium tantalate niobate) optical scanner based on EO effect and space-charge-controlled electrical condition. A large deflection angle is expected by applying a relatively low voltage to a 0.5-mm-thick KTN crystal with a short interaction length of 5.0 mm. In theory, the electrical condition is carried by electrons injected from the Ohmic contact of the electrodes. The injected electrons induce the space-charge effect and the electrical field becomes uniform while the electrical field has a square root dependence on the distance from the cathode. So, a linearly graded refracted index is induced and the optical beam is cumulatively deflected as it propagates in the crystal.