Copper-Phthalocyanine Field-Effect Transistor with a Low Driving Voltage TETSUJI OKUDA, SUSUMU SHINTOH, NORIO TERADA, Kagoshima University — Copper-phthalocyanine-thin-film metal-insulator-semiconductor field-effect transistors operating with a low driving voltage have been fabricated by using a PbZr_{0.5}Ti_{0.5}O_3 film as a high permittivity insulator layer (\(\varepsilon=500\)). A field-effect mobility of about 0.017 cm^2/Vs and an ON/OFF ratio of more than 10^3 were obtained at gate voltage of -2V and drain-source voltage of -1V. This demonstrates operation of a p-type copper-phthalocyanine transistor with a driving voltage low enough for actual device applications.

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