Abstract Submitted
for the GEC15 Meeting of
The American Physical Society

Preparation of mixed metal thin films by a PVD method using several kinds of powder targets YOSHIAKI SUDA, HIROHARU KAWASAKI, TAMIKO OHSHIMA, YOSHIHITO YAGYU, TAKESHI IHARA, MAKIKO YAMAUCHI, National Institute of Technology, Sasebo College, PLASMA PROCESS AND APPLICATION TEAM — Bismuth iron garnet ($Bi_3Fe_5O_{12}$) and aluminum doped zinc oxide (AZO) thin films were prepared by a physical vapor deposition method using mixed metal powder targets. The X-ray powder diffraction and X-ray photoelectron spectroscopy results suggest that crystalline thin films can be prepared using powder targets with quality similar to that of the films prepared using bulk targets. $Bi_3Fe_5O_{12}$ films prepared using the pulsed laser deposition method were Bi rich, which may be due to the lower melting temperature of Bi (544 K) compared with that of Fe (1811 K). The mean transparency and resistivity of the AZO films prepared by the sputtering method were approximately 79%–84% and 0.5−−1.4 ohm/cm, respectively.

Yoshiaki Suda
National Institute of Technology, Sasebo College

Date submitted: 16 Jun 2015 Electronic form version 1.4