

Abstract Submitted
for the GEC15 Meeting of
The American Physical Society

Etching of Magnetic Tunneling Junctions Materials using a Reactive Ion Beam KYUNG CHAE YANG, SUNG WOO PARK, MIN HWAN JEON, GEUN YOUNG YEOM, SungKyunKwan University — The etching of magnetic tunneling junctions (MTJs) was investigated using a reactive ion beam (RIB) system with gases such as Ar, NF_3 , CH_3OH and CO/NH_3 . Improved etch characteristics were observed with CH_3OH or CO/NH_3 in comparison with Ar or NF_3 , possibly due to the enhanced volatile product formation of CH_3OH or CO/NH_3 with MTJ materials by showing lower sidewall residue on the etched features and due to the high etch selectivity over W or TiN. Especially, CO/NH_3 reactive ion beam was the most effective for the MTJ etching by showing the most anisotropic MTJ etch profiles.

Kyung Chae YAng
SungKyunKwan University

Date submitted: 19 Jun 2015

Electronic form version 1.4