

Abstract Submitted  
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**Water Desorption from Ferroelectric and Dipole-Oriented Polymers** CAROLINA ILIE, LILLIE GHOBRIAL, GREGORY MASLAK, MARK STEWART, MICHAEL EVANS, Dept. of Physics, SUNY Oswego, LUIS G. ROSA, Dept. of Physics and Electronics, University of Puerto-Rico - Humacao, PETER A. DOWBEN, Dept. of Physics and Astronomy, University of Nebraska at Lincoln — Herein we compare the water absorption/ adsorption on three different polymer films: the ferroelectric co-polymer poly(vinylidene fluoride with trifluoroethylene) P(VDF-TrFE), the strongly dipole oriented polymer poly(methyl vinylidene cyanide) (PMVC) [1] and the dipole oriented poly(methyl methacrylate) PMMA. We investigate the dipole-dipole interaction of the water molecule and the ferroelectric/ dipole oriented polymer films and we propose that the dipole interactions may affect the surface chemistry at these polymer surfaces. Surface dipoles can affect the binding site of water species adsorbed at the surface and sterically hinder or enhance desorption of adsorbed and absorbed water.

[1] Dowben, P.A., Rosa, Luis G., Ilie, C.C., *Zeitschrift für Physikalische Chemie* 222 (2008) 755-778.

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