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Photoemission study of tris(8-hydroxyquinoline) aluminum/aluminum oxide/tris(8-hydroxyquinoline) aluminum interface
HUANJUN DING, SERKAN ZORBA, YONGLI GAO, Department of Physics and Astronomy, University of Rochester, LIPING MA, YANG YANG, Department of Materials Science and Engineering, University of California — The evolution of the interface electronic structure of a sandwich structure involving aluminum oxide and tris(8-hydroxyquinoline) aluminum (Alq), i.e. (Alq/AlO_x/Alq), has been investigated with photoemission spectroscopy. Strong chemical reactions have been observed due to aluminum deposition onto the Alq substrate. The subsequent oxygen exposure releases some of the Alq molecules from the interaction with aluminum. Finally, the deposition of the top Alq layer leads to an asymmetry in the electronic energy level alignment with respect to the AlO_x interlayer.

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