United States Patent [19]

[58] Field of Search 427/162, 100, 108, 110,

427/126.2, 126.3, 240, 421, 430.1, 443.2, 226

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[54] METALLO-ORGANIC SOLUTION [56] References Cited DEPOSITION (MOSD) OF TRANSPARENT, U.S. PATENT DOCUMENTS CRYSTALLINE FERROELECTRIC FILMS 3,081,200 3/1963 Tompkins 427/126.3 4,485,094 11/1984 Pebler et al. 427/226 [75] Inventors: Russell A. Lipeles, Los Angeles; 4,510,182 4/1985 Cornils et al. 427/226 Dianne J. Coleman, Long Beach, 4,792,463 12/1988 Okada et al. 427/126.3 both of Calif. Primary Examiner—Janyce Bell The Aerospace Corporation, El [73] Assignee: Attorney, Agent, or Firm-William J. Burke Segundo, Calif. **ABSTRACT** [21] Appl. No.: 253,538 An improved process to deposit transparent, crystalline, ferroelectric films from metallo-organic solutions on [22] Filed: Oct. 5, 1988 platinum, glass, quartz, and sapphire substrates is disclosed. The use of this process results in a significant Int. Cl.⁵ B05D 5/12 improvement in the transparency of perovskite, ferro-[52] U.S. Cl. 427/110; 427/100; electric lead titanate (PT), lead zirconate titanate (PZT) 427/108; 427/126.2; 427/126.3; 427/162; 427/240; 427/226; 427/421; 427/420.1; and doped-PZT films (e.g. films doped with lanthanum, PLZT).

7 Claims, 20 Drawing Sheets

Patent Number:

Date of Patent:

[11]

4,963,390

Oct. 16, 1990