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B93-119 Airfoil Wake and Linear Theory Gust Response Including Sub- and Superresonant Flow Conditions. Gregory H. Henderson and Sanford Fleeter, *Purdue University* (9, 6, p. 847) Article based on AIAA Paper 92-3074

B93-120 Wind-Tunnel Evaluation of Mid-Airframe Installed Turbojet Engines. J. S. Lilley, *U.S. Army Missile Command*; and S. L. Pengelly, *Boeing Defense and Space Group* (9, 6, p. 858) Article based on AIAA Paper 92-3752

B93-121 Conceptual Study of Separated Core Ultrahigh Bypass Engine. Y. Saito, N. Sugiyam, M. Endoh, and Y. Matsuda, *National Aerospace Laboratory, Japan* (9, 6, p. 867) Article based on AIAA Paper 92-3775

B93-122 Constrictor Flow Analysis of a Medium Power Hydrogen Arcjet. B. Glocker and M. Auweter-Kurtz, *Institut für Raumfahrtssysteme, Universität Stuttgart, Germany* (9, 6, p. 874) Article

B93-123 Cathode Phenomena in Plasma Thrusters. Monika Auweter-Kurtz, Bernd Glocker, Helmut L. Kurtz, Otto Loesener, Herbert O. Schrade, Nikolaos Tubanos, Thomas Wegmann, and Dieter Willer, *Universität Stuttgart, Germany*; and James E. Polk, *Princeton University* (9, 6, p. 882) Article based on AIAA Paper 90-2662

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