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 $T_c$  Enhancement in Electron-Doped Cuprate Heterostructures P.L. BACH, K. JIN, X.H. ZHANG, Center for Nanophysics and Advanced Materials, University of Maryland, R.L. GREENE<sup>1</sup>, University of Maryland, U. GRUPEL, E. ZOHAR, E. DIAMANT, Y. DAGAN, Raymond and Beverly Sackler School of Physics and Astronomy, Tel-Aviv University, S. SMADICI, P. ABBAMONTE, Frederick Seitz Materials Research Laboratory, University of Illinois — Multilayer thin films of La<sub>2-x</sub>Ce<sub>x</sub>CuO<sub>4</sub> (LCCO) and Pr<sub>2-x</sub>Ce<sub>x</sub>CuO<sub>4</sub> (PCCO) were fabricated as superlattices of different dopings. Pairing over-doped and under-doped (or un-doped) layers is found to increase  $T_c$  significantly above that of the single-phase films corresponding to the under- or over-doped layers. We report transport measurements on these multilayer films and discuss possible mechanisms for the  $T_c$  enhancement. This work was supported by the US-Israel Binational Science Foundation Grant #2006385 and the Center for Nanophysics and Advanced Materials (CNAM).

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