

Abstract Submitted
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Critical temperature of extremely confined bosons P. SALAS, Posgrado en Ciencia e Ingeniería de Materiales, UNAM, M. DE LLANO, Instituto de Investigaciones en Materiales, UNAM, M. FORTES, F.J. SEVILLA, M.A. SOLIS, Instituto de Física, UNAM — The critical BEC temperature T_c of an ideal boson gas inside a layered structure simulated by a Kronig-Penney-like trapping potential is found to *decrease* as the separation between planes decrease to the order of the thermal wavelength $\lambda_0 \equiv h/\sqrt{2\pi m k_B T_0}$ of the free boson gas at its critical BEC temperature T_0 [1], where m is the boson mass. However, when the plane separation is less than λ_0 , T_c increases to nearly T_0 . This phenomenon could be present in cuprate superconductors and explain why their transition temperatures increases as a function of pressure. [1] P. Salas, M. Fortes, M. de Llano, F.J. Sevilla and M.A. Solís, “*Thermodynamic properties of bosons among Kronig-Penney layers,*” to be published. We acknowledge the partial support from grant PAPIIT IN1114708.

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