

Abstract Submitted
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Phonons in solid picene at high pressures LILIA BOERI, Technical University Graz, F. CAPITANI, Dipartimento di Fisica, Università di Roma Sapienza, Italy, M. HOEPPNER, Max-Planck-Institute for Solid State Research, Stuttgart, Germany, B. JOSEPH, Dipartimento di Fisica, Università di Roma Sapienza, Italy, G.A. ARTIOLI, Dipartimento di Chimica, Università di Pavia, Italy, L. BALDASSARRE, Center for Life NanoScience@Sapienza, IIT, Roma, Italy, A. PERUCCHI, Sincrotrone Trieste, S.C.p.A., Area Science Park, Trieste, Italy, M. PICCININI, Porto Conte Ricerche S.r.l., Alghero (SS), Italy, S. LUPI, CNR-IOM and Dipartimento di Fisica, Università di Roma Sapienza, Italy, P. DORE, CNR-SPIN and Dipartimento di Fisica, Università di Roma Sapienza, Italy, L. MALAVASI, Dipartimento di Chimica, Università di Pavia, Italy, P. POSTORINO, Dipartimento di Fisica, Università di Roma Sapienza, Italy — Intercalated hydrocarbons have attracted considerable interest as a new class of superconductors. Calculations of the $e - ph$ interaction in different approximations yield conflicting results on the role of inter and intra-molecular vibrations in the pairing. We present an experimental and theoretical study of the phonon spectrum of solid picene under high pressure. We introduce a new theoretical analysis, based on the projection of phonon eigenvectors, to quantify the increase of intermolecular character under pressure. F. Capitani et al., Phys. Rev. B 88, 144303 (2013).

Lilia Boeri
Technical University Graz

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