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标题: Ultrafast Strain Engineering in Complex Oxide Heterostructures
作者: Caviglia, AD (Caviglia, A. D.); Scherwitzl, R (Scherwitzl, R.); Popovich, P (Popovich, P.); Hu, W (Hu, W.); Bromberger, H (Bromberger, H.); Singla, R (Singla, R.); Mitrano, M (Mitrano, M.); Hoffmann, MC (Hoffmann, M. C.); Kaiser, S (Kaiser, S.); Zubko, P (Zubko, P.); Gariglio, S (Gariglio, S.); Triscone, JM (Triscone, J. -M.); Forst, M (Foerst, M.); Cavalleri, A (Cavalleri, A.)
来源出版物: PHYSICAL REVIEW LETTERS 卷: 108 期: 13 文献号: 136801 DOI: 10.1103/PhysRevLett.108.136801 出版年: MAR 26 2012
在 Web of Science 中的被引频次: 0
被引频次合计: 0
引用的参考文献数: 30
摘要: We report on ultrafast optical experiments in which femtosecond midinfrared radiation is used to excite the lattice of complex oxide heterostructures. By tuning the excitation energy to a vibrational mode of the substrate, a long-lived five-order-of-magnitude increase of the electrical conductivity of NdNiO3 epitaxial thin films is observed as a structural distortion propagates across the interface. Vibrational excitation, extended here to a wide class of heterostructures and interfaces, may be conducive to new strategies for electronic phase control at THz repetition rates.
入藏号: WOS:000301918700005
语种: English
文献类型: Article
KeyWords Plus: METAL-INSULATOR-TRANSITION; NEUTRON-DIFFRACTION; RARE-EARTH; THIN-FILMS; PEROVSKITES; NDNIO3; PHASE; FERROELECTRICITY; PULSES
地址: [Caviglia, A. D.; Popovich, P.; Hu, W.; Bromberger, H.; Singla, R.; Mitrano, M.; Hoffmann, M. C.; Kaiser, S.; Foerst, M.; Cavalleri, A.] Univ Hamburg, Max Planck Res Grp Struct Dynam, Ctr Free Electron Laser Sci, D-22607 Hamburg, Germany
[Cavalleri, A.] Univ Oxford, Dept Phys, Clarendon Lab, Oxford OX1 3PU, England
[Scherwitzl, R.; Zubko, P.; Gariglio, S.; Triscone, J. -M.] Univ Geneva, Dept Phys Mat Condensee, CH-1211 Geneva 4, Switzerland
通讯作者地址: Caviglia, AD (通讯作者),Univ Hamburg, Max Planck Res Grp Struct Dynam, Ctr Free Electron Laser Sci, Notkestr 85, D-22607 Hamburg, Germany
电子邮件地址: Andrea.Caviglia@mpsd.cfel.de
出版商: AMER PHYSICAL SOC
出版商地址: ONE PHYSICS ELLIPSE, COLLEGE PK, MD 20740-3844 USA
Web of Science 分类: Physics, Multidisciplinary
学科类别: Physics
IDS 号: 914AE
ISSN: 0031-9007
29 字符的来源出版物名称缩写: PHYS REV LETT
ISO 来源出版物缩写: Phys. Rev. Lett.
来源出版物页码计数: 5