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Observation of RF-induced flux lattice annealing (RIFLA) in cuprate high temperature superconductors GUOQING WU, XIANGHUA ZENG, XIAO-SHAN YE, Yangzhou Uni., BING WU, Fayetteville State Uni. , GERARD GAIDOS, W. G. CLARK, UCLA — We report the annealing of a strained flux lattice (FL) in cuprate high temperature superconductors, by the RF pulses used to obtain the NMR spin-echo signal and by a series of RF pulses that are input into the sample coil in a tuned NMR probe circuit. The strained FL is prepared by changing the alignment and/or magnitude of the applied magnetic field at temperatures well below the superconducting transition temperature, which leaves the FL pinned in a non-equilibrium configuration. We provide a very sensitive measure of the phenomenon. This new observation enriches the phenomenon of FL, and indicates that shaking the flux lattice by the applied RF pulses (including both the spin-echo pulses and the pulses input to the sample coil circuit) progressively causes the flux lattice to change to a lower free energy configuration. Supported by NSF China grant : 61474096

Guoqing Wu
Yangzhou University

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