Optical control of inter-layer distance of hBN: a TDDFT study

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The source of the stronger attraction of hBN sheets was attributed with increase of dipole moment of each layer coming from the motions of boron (B) and nitrogen (N) atoms in opposite directions. Since the dipole moments of these layers remain as parallel throughout the $A_{2u}$ phonon vibration, the increase of attractive force occurs between the two hBN sheets in analogy of the London force. In this talk, we will further discuss proper intensity of IR laser and potential applications of this phenomenon. This work was published in Phys. Rev. Lett 114, 116102 (2015).