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Status report on nonlinear Compton scattering study

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Recent progress of fundamental study on nonlinear inverse Compton scattering (ICS) will be reported. Experiment has been performed in Brookhaven National Laboratory Accelerator Test Facility. Counter collision of TW CO₂ laser and 60-70 MeV electron beam having 300 pC of charge per pulse induce clear structure of nonlinear electrodynamics in X-ray radiation characteristics. In addition, utilization of the near infrared YAG laser expands the study on bi-harmonic Compton interaction or general applications in medicine and material research at hard X-ray energy of 87.5 keV in single shot basis.

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