

THE LIGHT PRESSURE ON ATOMS IN THE FIELD
OF COUNTER-PROPAGATING TRAINS
OF SHORT LIGHT PULSES

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S u m m a r y

We present a theoretical study of the force of light on a two-level atom in the field of counter-propagating trains of short light pulses with constant and stochastic phases. By the example of a beam of He* atoms that crosses the light beam with the Gaussian distribution of intensity, it is shown that, in the counter-propagating trains of light pulses, a variation of the atom velocity along the laser beam may considerably exceed the maximal variation of the velocity that could be obtained under interaction of the atom with the field of a travelling wave with the same interaction time.