

ASTIGMATISM COMPENSATION IN BLOCK OF TEMPORAL BROADENING OF PULSE FOR PUMP CHANNEL OF HIGH POWER LASER SYSTEM

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A high peak and high average power femtosecond laser system based on media doped with Yb^{3+} ions is being developed at the Institute of Laser Physics of the SB RAS. For efficient laser amplification and to avoid optical damage is actually to compensate wave front distortion caused by grating astigmatism in pump channel. Based on theory of propagation of gaussian beam in space and through optical elements the calculation of optimal parameters of two lenses telescope and comparison with experimental data has been performed. The obtained results can be used for decrease of astigmatic effect on beam profile quality in design of laser systems with elements involving astigmatism.

Keywords: high power laser, laser amplifier, compensation of astigmatism, diode pump, wavefront, gaussian beams, stretcher

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