

MODELING THE HYPERGEOMETRIC LASER BEAM PROPAGATION USING PARALLEL COMPUTING ON MULTI-KERNEL ARCHITECTURES

© 2008 S.A. Balalayev

Samara State Aerospace University

Numerical comparison of properties of the ideal infinite hypergeometric modes and their bounded analogs is made. The potentialities of diffractive optics methods in generating the hypergeometric modes are examined.

Hypergeometrical modes, diffractive optical element, weakly diverging beam, the software of an estimation of experimental data

References

1. **Balalayev, S.A.** Расчет гипергеометрических мод / S.A. Balalayev, S.N. Khonina, V.V. Kotlyar // News of the Samara centre of science of the Russian Academy of Sciences. – 2007. – N 9(3). – C.584-591. – [in Russian].
2. **Balalayev, S.A.** Properties comparison of hypergeometrical modes and Bessel modes / S.A. Balalayev, S.N. Khonina // Computer Optics. – 2007. – Vol. 31, N 4. – P. 23-28. – [in Russian].
3. **Kotlyar, V.V.** Family of hypergeometric laser beams / V.V. Kotlyar, A.A. Kovalev // J. Opt. Soc. Am. – 2008. – A.25. – P.262-270.
4. <http://byterix.net/caam>

Balalayev Sergey Anatoljevich, S.P. Korolyov Samara State Aerospace University, the post-graduate student, e-mail: sof.bix@mail.ru. Area of scientific interests: modelling of the diffraction elements, programming.