Application of remarkable properties of eigensubspaces of light propagation operator in a lenslike medium for solving the problems of computer optics

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Abstract

This article is devoted to the investigation of remarkable properties of eigensubspaces of light propagation operator in a lenslike medium.

Keywords: lenslike medium, computer optics, eigensubspaces.

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Access full text (in Russian)

References

- [1] Solimeno S, Crosignani B, Di Porto P. Guiding, diffraction, and confinement of optical radiation. Orlando, FL: Academic Press; 1986.
- [2] Adams MJ. An introduction to optical waveguides. New York: John Wiley & Sons Inc; 1981.
- [3] Soifer VA, Golub MA. Laser beam mode selection by computer generated holograms. Boca Raton, FL: CRC Press; 1994.
- [4] Golub MA, Prokhorov AM, Sisakyan IN, Soifer VA. Synthesis of spatial filters for investigation of the transverse mode composition of coherent radiation. Sov J Quantum Electron 1982; 12(9): 1208-1209.
- [5] Duparré MR, Pavelyev VS, Luedge B, Kley E-B, Kowarschik RM, Soifer VA. Forming of selected unimodal complex amplitude distribution by means of novel DOEs of modan-type. Proc SPIE 1998; 3134: 357-368.
- [6] Pavelyev VS, Soifer VA. Selection of laser radiation modes [In Russian]. Chap 6. In Book: Soifer VA, ed. Methods of computer optics [In Russian]. Moscow: "Fizmatlit" Publisher; 2000: 395-469.
- [7] Pavelyev VS, Duparré M, Luedge B, Soifer VA, Kowarschik R, Golovashkin DL. Invariant laser beams fundamental properties and their investigation by computer simulation and optical experiment. Computer Optics 1999; 19: 88-95.
- [8] Pavelyev VS, Karpeev SV, Duparré M, Luedge B, Rokshtul K, Schröter Z. Investigation of the transverse-mode composition of dispersionless multimode beams using correlation filters. Computer Optics 2002; 23: 10-14.