O. Raev, *ncenter@list.ru*

Features of recording of the off-axis points of the optical image firmed by the lens at longitudinal displacement relative to the light-sensitive layer 15

***Abstract***

***The article analyzes the image blur and rescaling resulting from the longitudinal displacement of the optical image formed by the lens during photo and film shooting, relative to the light - sensitive layer of a matrix or a film.***

***Mathematical models of the scattering function and the spatial frequency characteristic of the longitudinal displacement of the optical image relative to the light-sensitive layer are refined for off-axis points of the frame.***

***Keywords: digital photo camera, digital movie camera, scattering function, spatial frequency characteristic, film, image sensor.***

***References***

1. *Grebennikov O.F.* Osnovy zapisi i vosproizvedeniya izobrazhenii (v kinematografe): uchebnoe posobie dlya vuzov kinematografii. M.: Iskusstvo, 1982. 239 p.

2. *Grebennikov O.F., Tikhomirova G.V.* Osnovy zapisi i vosproizvedeniya informatsii (v audiovizual'noi tekhnike): uchebnoe posobie. SPb.: SPbGUKiT, 2002. 712 p.

3. Gudmen Dzh. Vvedenie v Fur'e-optiku. M.: Mir, 1970. 364 p.

4. *Kulagin S.V.* Raspredelenie osveshchennosti / Fotokinotekhnika / gl. red. E.A. Iofis. M.: Sovetskaya Entsiklopediya, 1981. P. 269.

5. Opticheskie pribory v mashinostroenii. Spravochnik. M.: Mashinostroenie, 1974. 238 p.

6. *Raev O.N.* Otsenka kachestva izobrazheniya pri prodol'nom smeshchenii opticheskogo izobrazheniya, formiruemogo ob"ektivom, otnositel'no svetochuvstvitel'nogo sloya / Mir tekhniki kino. 2018. № 4(12). P. 10-17.

7. *Raev O.N.* Preobrazovanie opticheskogo izobrazheniya s periodicheskim izmeneniem osveshchennosti v kadre matritsei foto- i kinoapparata / Mir tekhniki kino. 2018. № 3(12). P. 11-17.

8. *Raev O.N.* Sposoby otsenki prostranstvennogo sdviga kinoplenki v kinos"emochnoi apparature. Obzornaya informatsiya / NIKFI. Kinofototekhnika. M., 1987. Vol. 1(92). M.: NIKFI, 1987. 47 p.