

The Effectiveness of Microfocus X-ray

A. Yu. Vasiliev¹, A. I. Mazurov², N. N. Potrakhov³

¹ Moscow State Medical Dental University named A. I. Evdokimov, Moscow

² CJSC «Research and Production Company «Electron», Saint Petersburg

³ Saint Petersburg Electrotechnical University «LETI» (ETU), Saint Petersburg

Abstract

The advantages of microfocus X-ray photography image magnification compared to shooting with contact in those regions of where the power microfocus apparatus sufficient to show-through concrete bodies. It is shown that microfocus devices for main parameters and characteristics (spatial resolution, depth of focus, suppression of scattered radiation, dynamic modes) that provides image quality superior to devices for pin shooting.

Key words: Microfocus Radiography, Resolution, Depth of Field, Dynamic Unsharpness, Scattered Radiation, Pseudonym, Phase Contrast.

References

1. *Vasil'ev A. Y., Petrovskaja V. V., Perova N. G.* A low-dose digital microfocus radiography in dentistry and maxillofacial surgery. *Radiologija – praktika*. 2011. No. 6. P. 26–33 (in Russian).
2. *Vasil'ev A. Yu., Serova N. S., Petrovskaja V. V., Perova N. G., Potrahov N. N., Grijaznov A. Ju.* Guide intraoperative microfocus radiography. Moscow: GIEOTAR-Media, 2011. 80 p. (in Russian).
3. *Mazurov A. I., Potrahov N. N.* The influence of scattered radiation on image quality and methods of its suppression. *Biotehnosfera*. 2012. No. 3–4. P. 10–14 (in Russian).

Authors

Vasil'ev Aleksandr Yur'evich, M. D. Med., Corresponding Member of the Russian Academy of Sciences, Professor, Department of Radiology Moscow State Medical University of Medicine and Dentistry named after A. I. Evdokimov, Ministry of Healthcare of Russia.

Address: 9a, ul. Vucheticha, Moscow, 127206, Russia.

Phone number: +7 (495) 611-01-77. E-mail: auv62@mail.ru

Mazurov, Anatoly Ivanovich, Ph. D. of technical operations, Deputy of Director General for science, CJSC «Research and Production Company «Electron» (Elektron).

Address: Volhonskoe shosse, kvartal 2, 4 B, Saint Petersburg, 198188, Russia.

Phone: +7 (812) 325-02-02. E-mail: mazurov@electronxray.com

Potrakhov Nikolay Nikolaevich, Ph.D in Engineering, Professor, Head of Chair of Department of Electron Devices and Systems of Saint Petersburg Electrotechnical University «LETI» (ETU).

Address: ul. Professora Popova, 5, Saint Petersburg, 197376, Russia.

Phone number: +7 (812) 234-21-59. E-mail: kzhamova@gmail.com