DESIGN FEATURES OF ENHANCEMENT OF UV SOURCES

Krasnopolskyi M., Chernikova I., Chernikov N.
Volodymyr Dahl East Ukrainian National University

Specifics of optical and photo-electric measurements superimpose certain requirements to light sources. First, they shall have identical brightness on all surface area of radiation of a luminous flux. Secondly, the flow of radiative energy shall be stable in time, that is would possess so small fluctuations that within errors of experiment I had no impact on results of the experiment. Thirdly, intensity of the luminous flux proceeding through the surface area of an input slot of the monochromator shall be a constant. In this operation the description and construction of a high-voltage hydrogen lamp, as UV source are provided in the energy range to 11 eV. It is constructive a hydrogen lamp consists of two flanges connected among themselves by a ceramic-metal tube with a bellows decoupling. The first flange connects to the vacuum monochromator, and the second flange by means of the union connects to the hydrogen generator. The tube with an inside diameter of 4 mm is inserted into a ceramic-metal tube quartz (optical quartz). Such constructive decision allows to replace through certain time the polluted quartz tube on new that qualitatively affects stability of operation of UV source. Advantage of the offered UV source in its longevity and stability of operation with rather intensive emitted luminous flux.