

The invention relates to spectrophotometry ion astrophysics and space geo-physics. Method for calibration of brightness of continuous out-of-atmosphere objects includes registration of sequence of hyperfocal images of point out-of-atmosphere standard of brightness in spectral region under investigation with determination of power brightness corresponding to each hyperfocal image. Brightness of standard is enlarged out of boundaries specific to star standards through formation of artificial out-of-atmosphere brightness standard – sphere that in mirror reflection reflects solar radiation. Value of maximal energy in enlarged range is determined from ratio

$$E_{\omega} = \Delta E \cdot k \cdot d^2 / 16 L^2,$$

where ΔE – value of energy of solar radiation in spectral region under investigation, d – diameter of sphere, k – coefficient of reflection of its surface, L - distance "point of observation - sphere",
at that for specific distance L needed value E_{ω} is provided by choosing diameter of sphere d .