Some Methodological Aspects of Selection Serials to Be Included in the Information Environment for Researchers in a Technical or Natural Science (by Example of Optoelectronics and Optical Systems)

Abstract
A comprehensive citation analysis-based methodology for selecting the world scientific serials to be included in information environment for researchers in a specific natural or technical science is featured. The case study was fulfilled for serials to be included in information environment for researchers in optoelectronics and optical systems (OOS) with the use of Journal Citation Reports (JCR) data. The indices taken for serials evaluation were: total citedness of a serial in the selected journals specialized in OOS; the “discipline impact factor” (Hirst 1978) i.e. the impact factor which numerator is the magnitude of a serial citedness not by all the JCR-indexed journals, but by the ones specialized in OOS, the denominator being the number of papers in a cited serial; the magnitude of total citedness of the journals specialized in OOS in a serial under evaluation; the “discipline susceptibility factor” of a serial (Lazarev and Skalaban 2016; Lazarev et al. 2017), i.e. the number of citations to the mentioned specialized journals made in a serial being evaluated divided by the number of papers in a citing serial. The citation window is one year, the publication window is “5+1” years (i.e. 5 previous years plus the year of citing). With the application of the outlined methodology, the selection of serials believed to be necessary to implement research in OOS has been accomplished, and after application of threshold values, merging and elimination some of the data, the list of 538 serials has been determined. The second pair of indices reflects the susceptibility of the serials being evaluated to the research field represented by cited specialized journals.
Learn more about Science and Technology for the Built Environment at ashrae.org. This journal is published by Taylor & Francis Group on behalf of ASHRAE and included in the Web of Science® and Current Contents Connect® databases. Science and Technology for the Built Environment is available online and as a printed volume. ASHRAE members’ access to STBE will benefit firms, contractors, and other researchers through increased research transparency and access to cutting-edge technical information and case studies. Subscriptions are Available in Print and Online Formats. ASHRAE offers free online access and reduced print subscription rates to ASHRAE members. Environmental science is an interdisciplinary academic field that integrates physical, biological and information sciences (including ecology, biology, physics, chemistry, plant science, zoology, mineralogy, oceanography, limnology, soil science, geology and physical geography, and atmospheric science) to the study of the environment, and the solution of environmental problems. Environmental science emerged from the fields of natural history and medicine during the Enlightenment. Today it provides an According to Russian researchers a method for recording information on crystals by means of a laser has already been developed, but advanced technologies are needed to make it commercially applicable. At present researchers are looking for the most suitable chemical compounds to be used as data storages and trying to determine optimum recording conditions. Theoretically, the entire «Great Soviet Encyclopedia» can be recorded on a single tiny crystal. As far back as 1845, Michael Faraday discovered that a light beam reverses its polarization as it passes through a magnetized crystal. One of the most striking features of modern science is the increasing tendency towards closer cooperation between scientists and scientific organizations (institutions) all over the world.