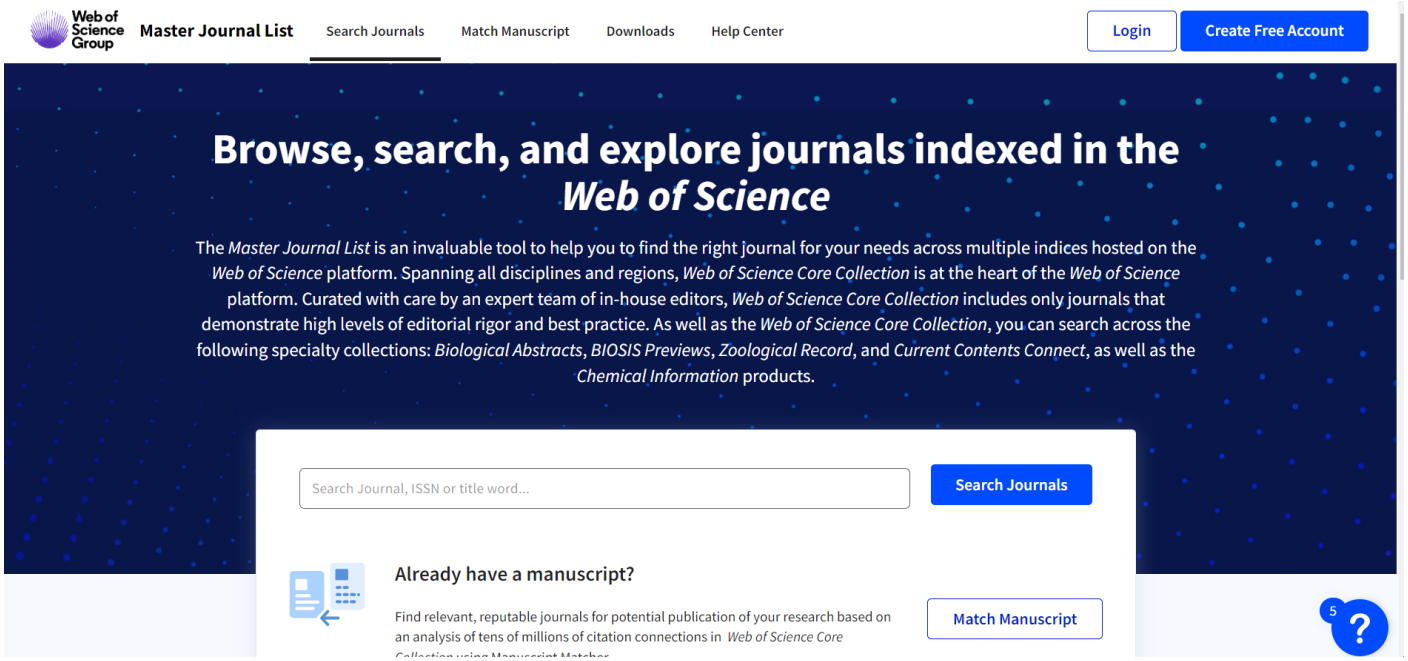
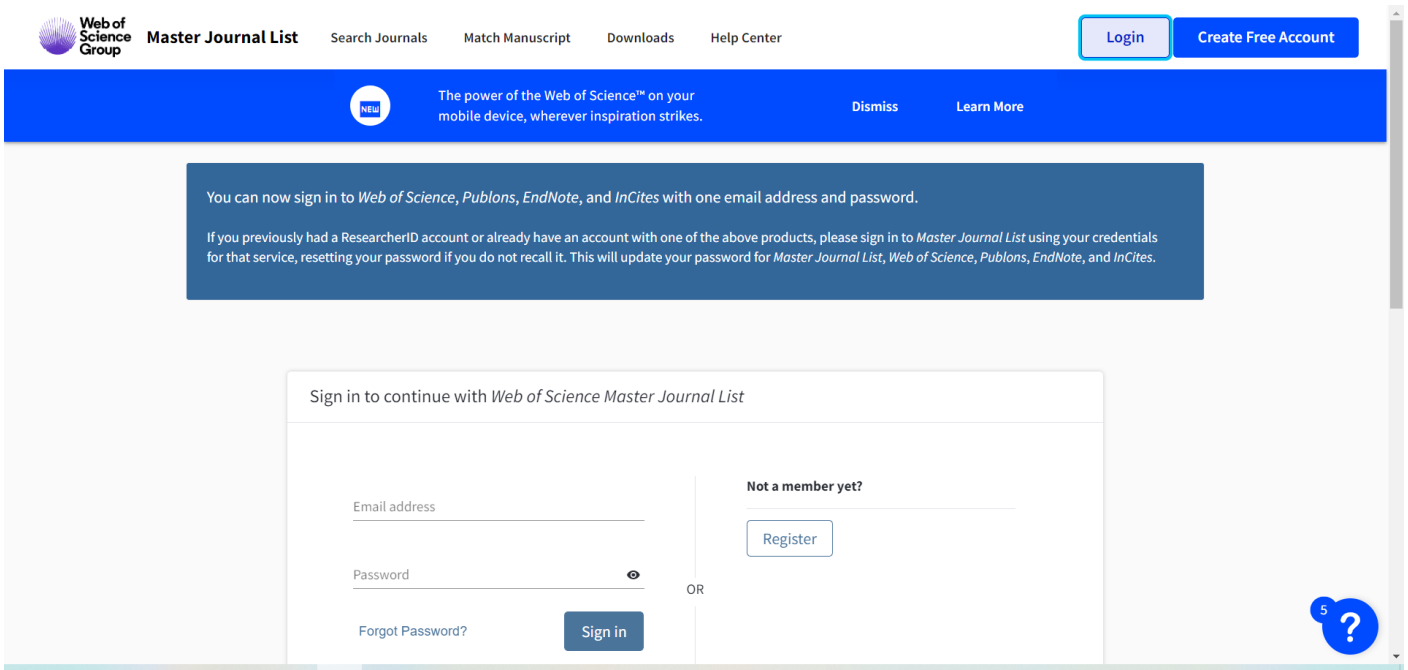
Master Journal List

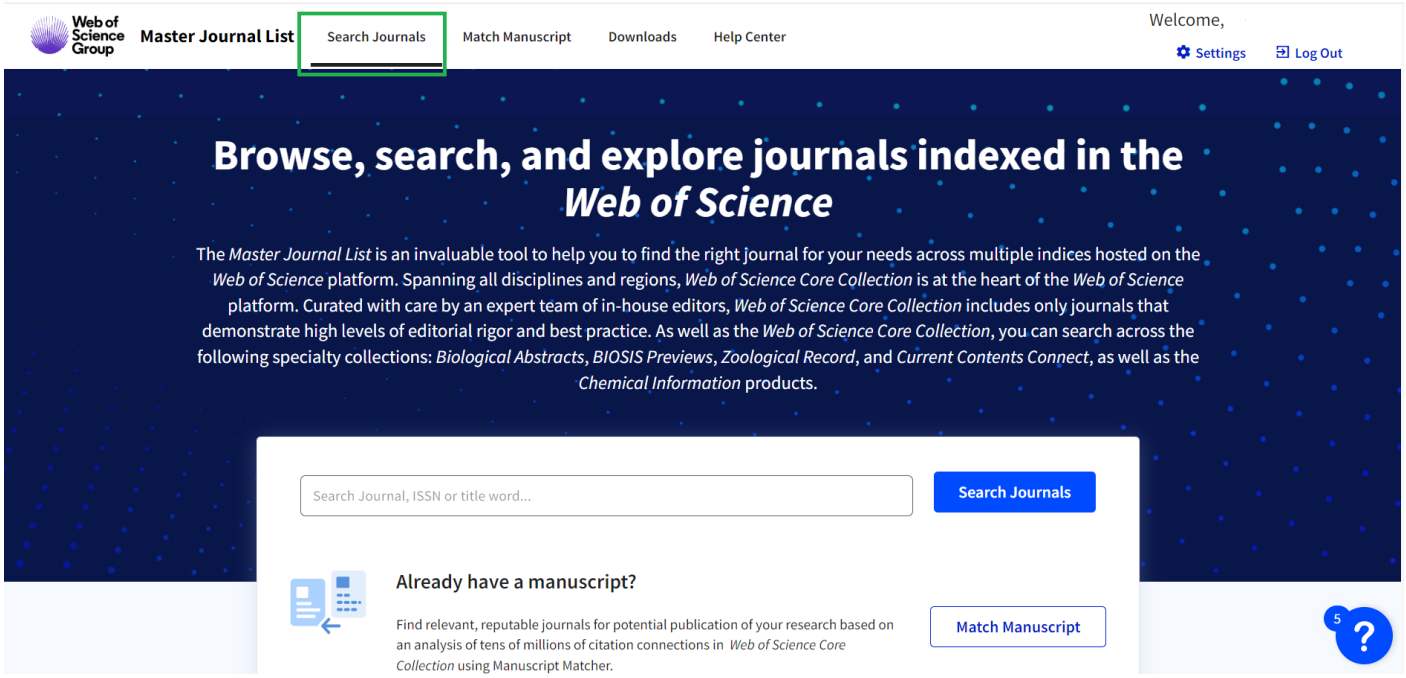
1. Начальная страница Master Journal List



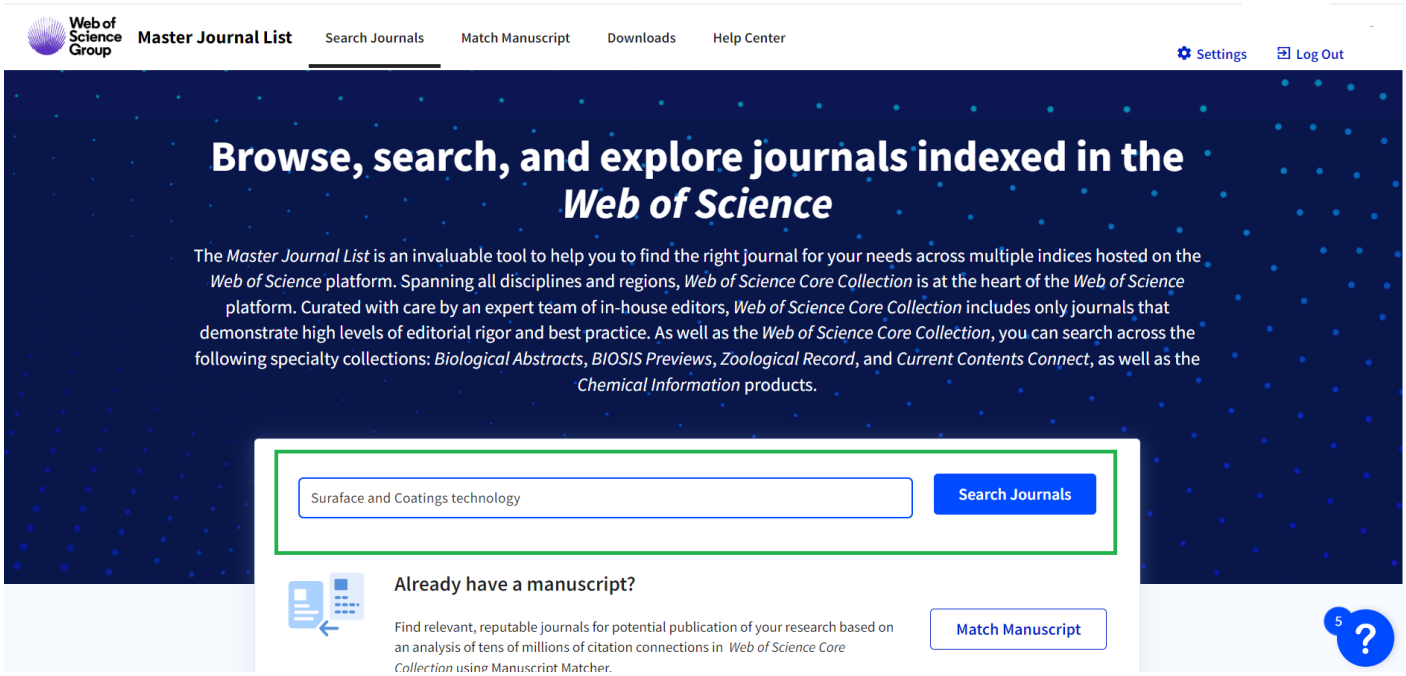
2. Авторизация (можно использовать учетные данные Web of Science, Publons)



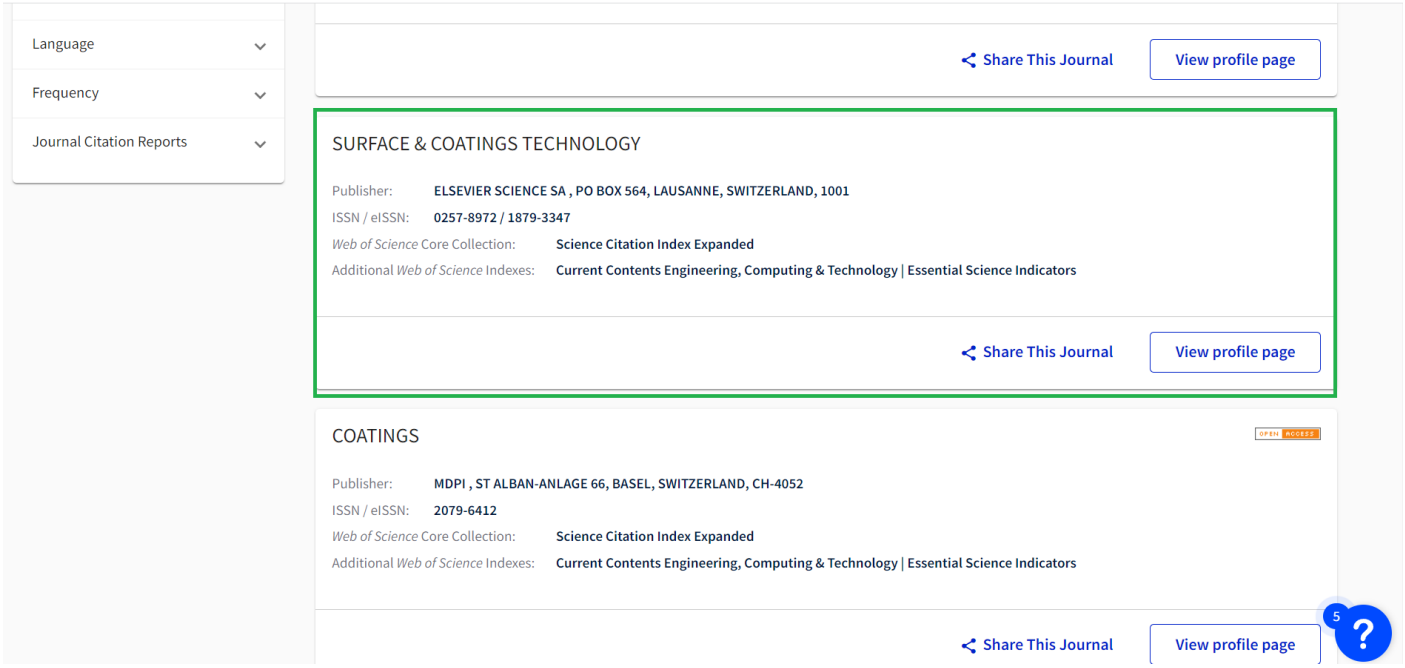
3. Перейти на страницу поиска журналов ***«Search Journals»***



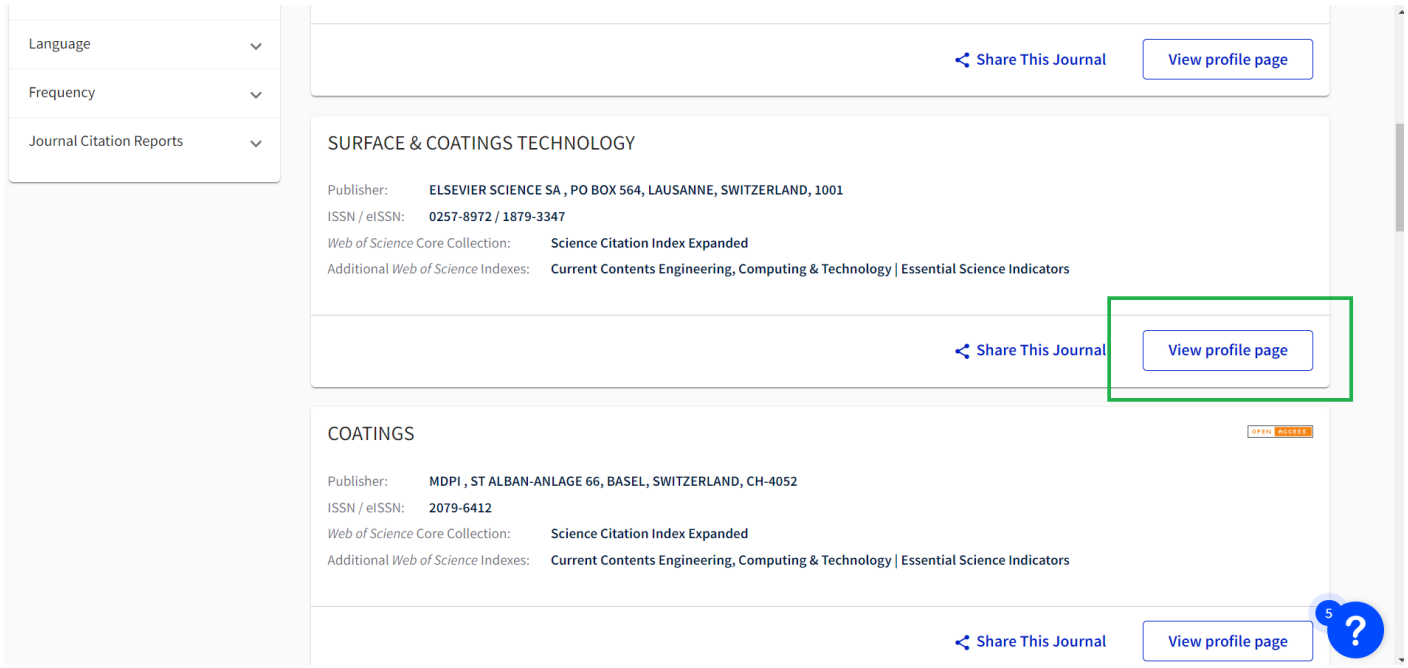
4. В поисковой строке ввести запрос (название журнала). Например, ***«Surface and Coatings Technology».***



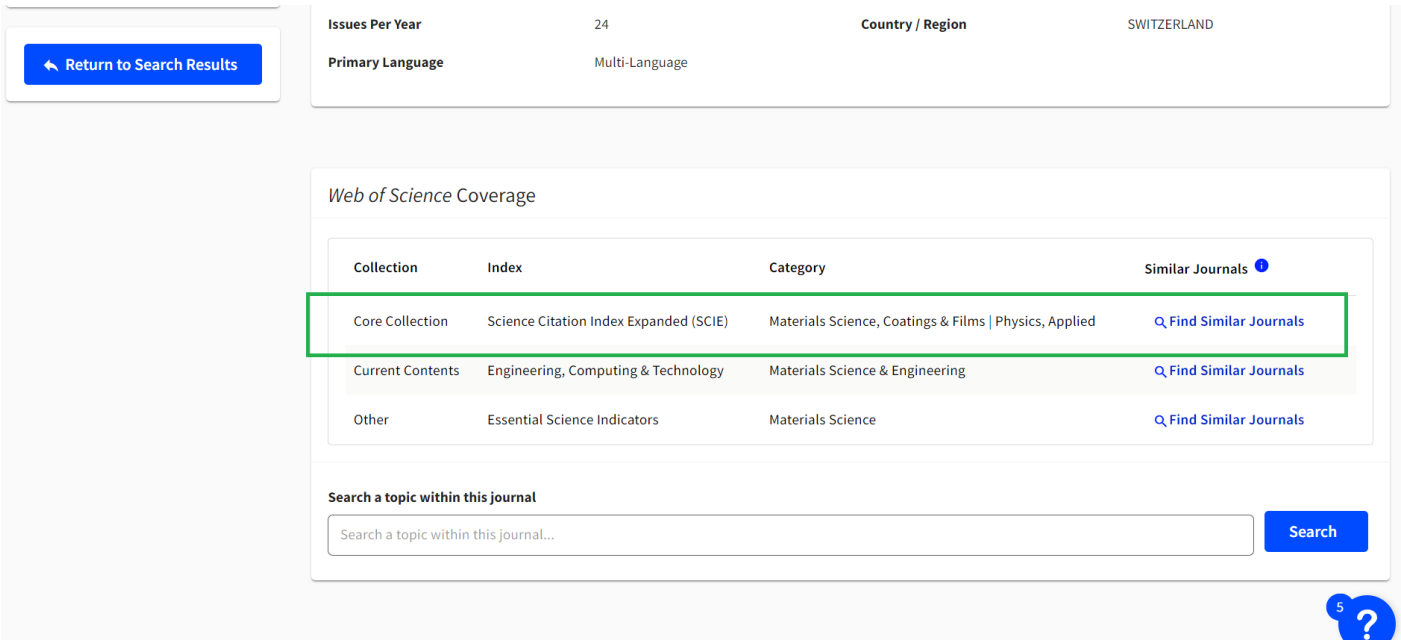
5. В результатах поиска, найти нужный журнал или подходящий по тематике



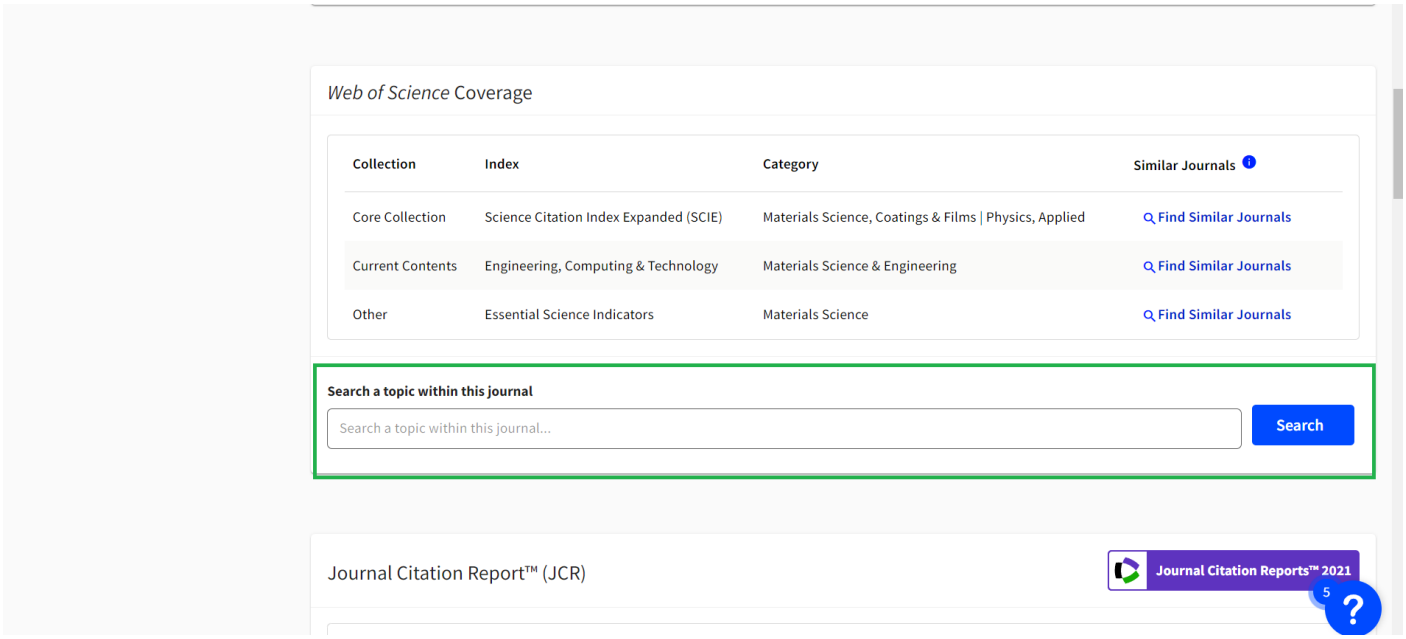
6. Перейти на профиль журнала (***View profile page***)



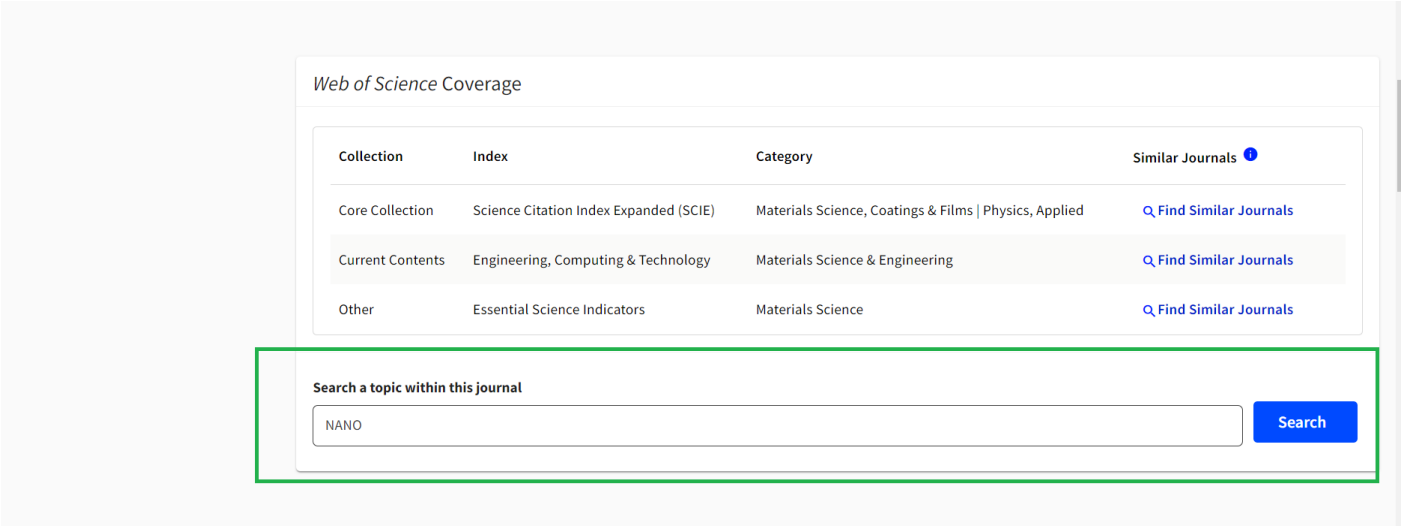
7. В профиле журнала представлена подробная информация об издании: издательство, ISSN, предметная категория Web of Science, индексы Web of Science и др.



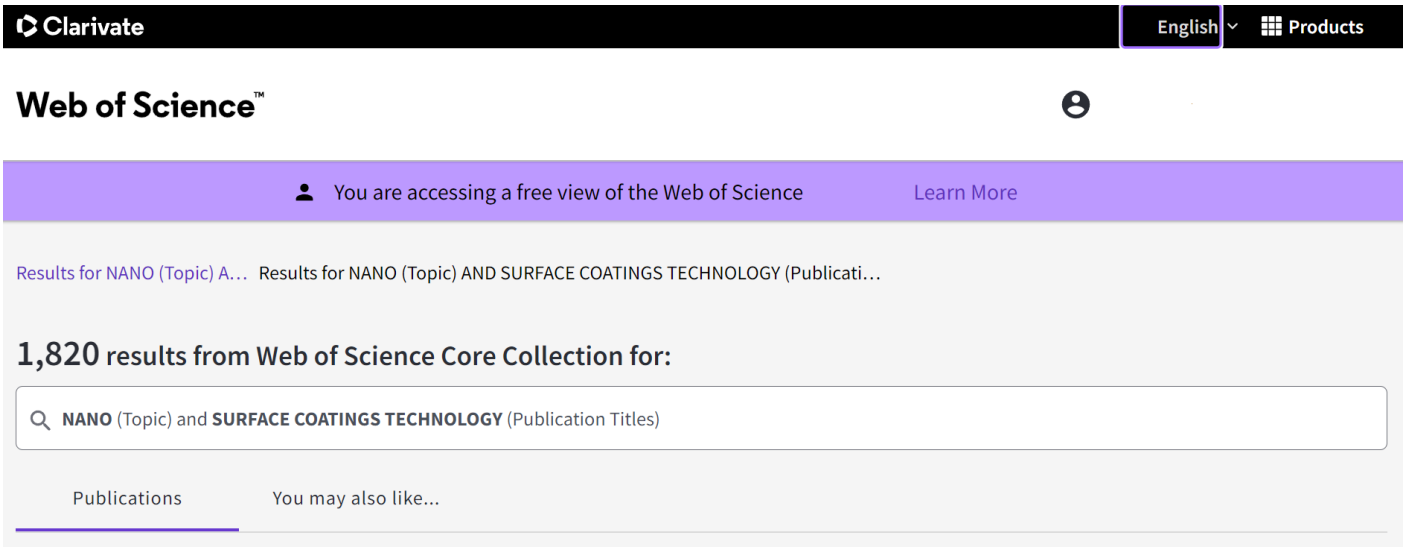
8. Можно провести поиск по публикациям, в выбранном журнале.
В строке поиска ***«Search a topic within journal»*** ввести название статьи, ключевые слова, и т.д.



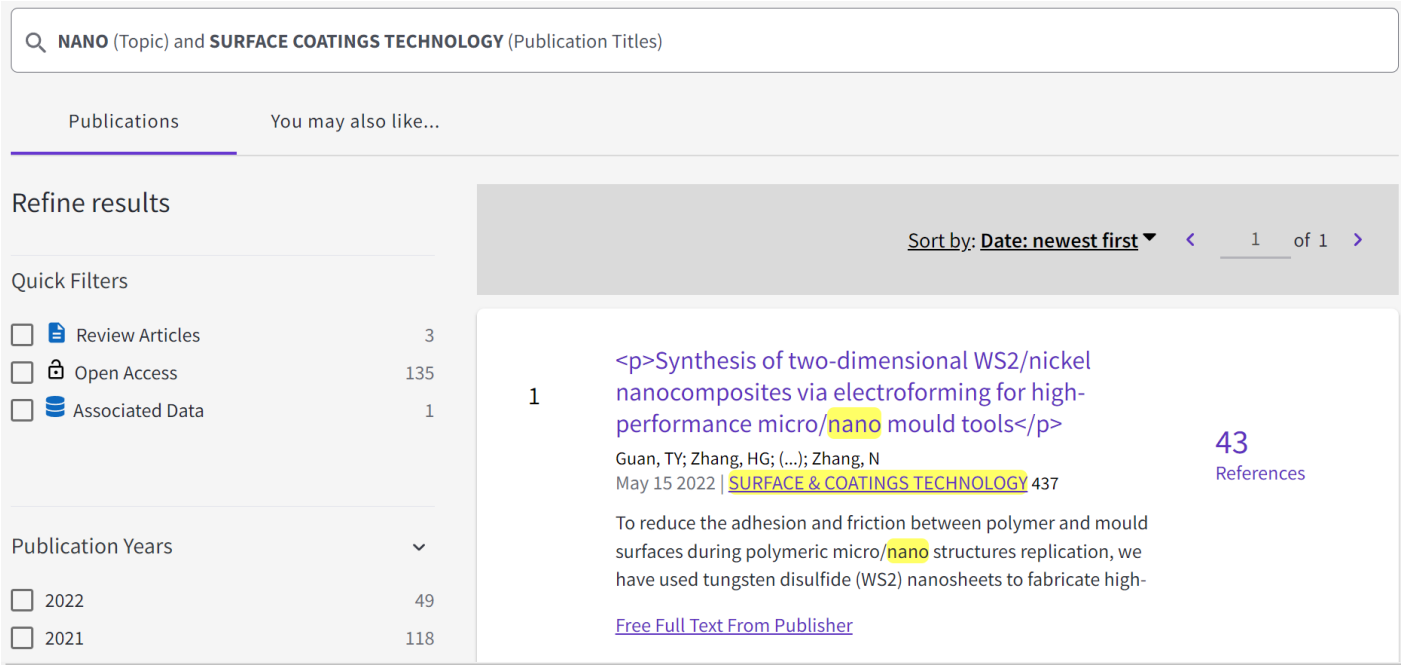
9. В примере представлен поиск по ключевому слову ***«NANO»***



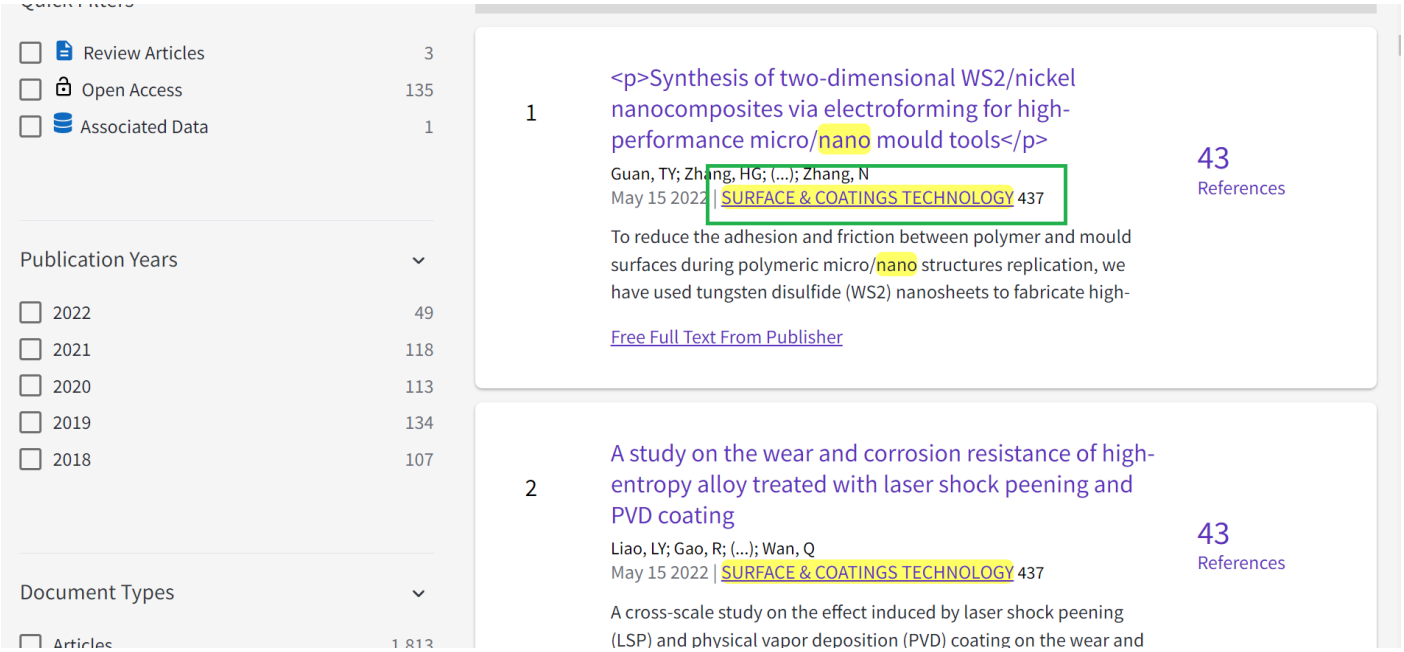
10. Результаты поиска отображаются на странице в БД Web of Science.
По ключевому слову ***«NANO» в журнале Surface and Coatings Technology*** найдено 1820 публикаций в БД Web of Science CC.



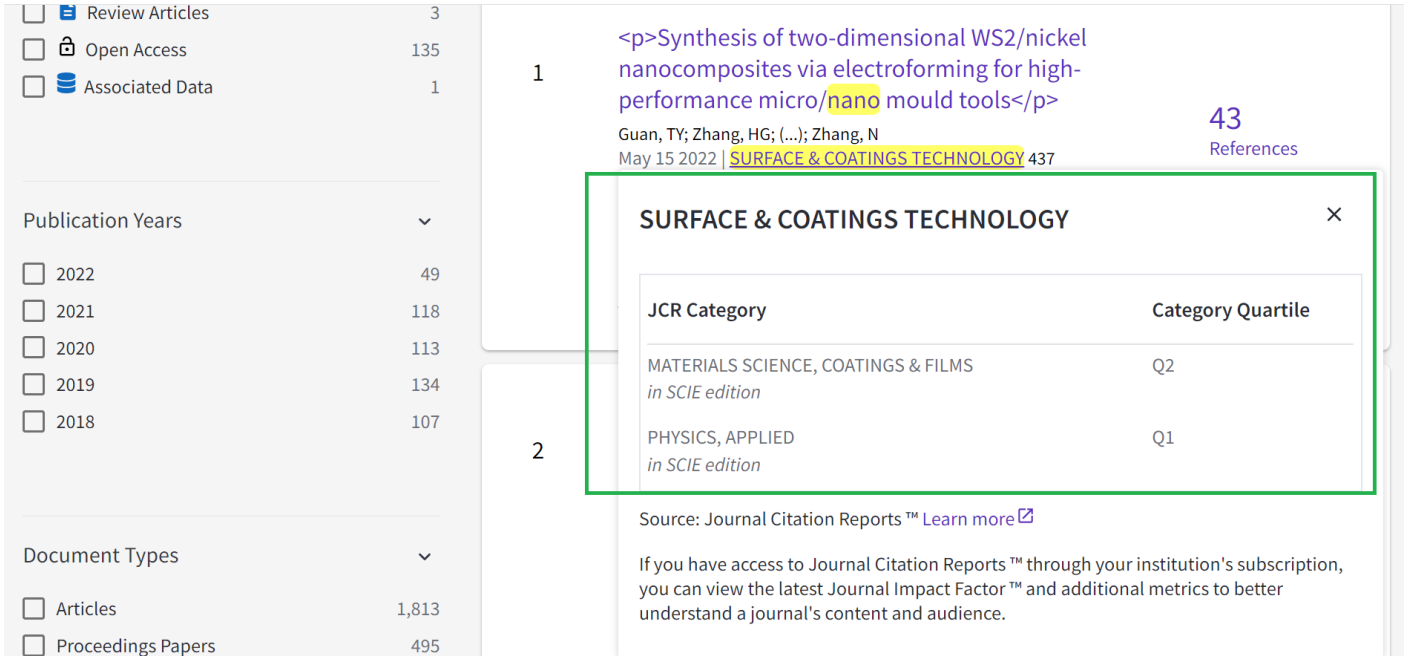
11. По каждой публикации доступна для просмотра библиографическая информация.



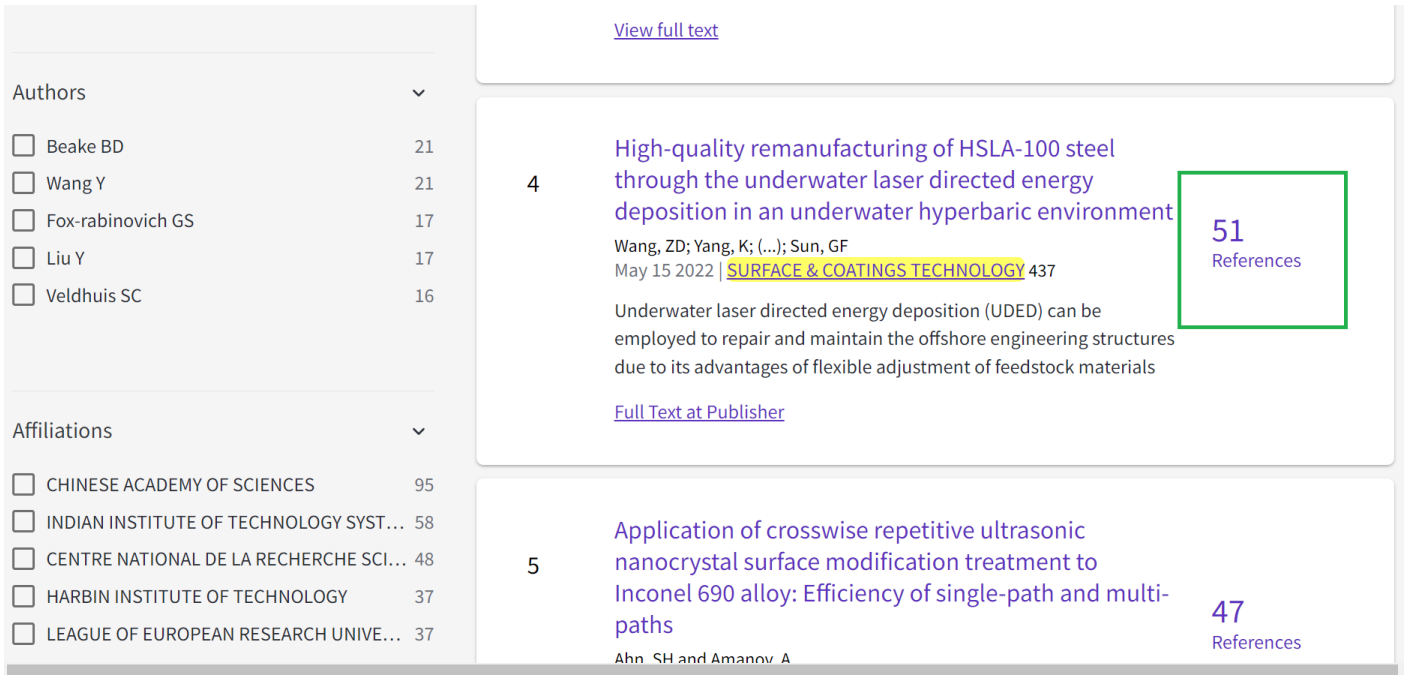
12. Информация о журнале



13. Текущий квартиль журнала, предметная категория, индекс



14. Информация о цитировании публикации



15. На странице публикации информация: название, авторы, цитирование, аффилиация авторов, DOI, тип публикации в БД Web of Science, предметная категория, цитирование и др.

High-quality remanufacturing of HSLA-100 steel through the underwater laser directed energy deposition in an underwater hyperbaric environment

By: Wang, Z. D. (Wang, Z. D.) ; Yang, K. (Yang, K.) ; Chen, M. Z. (Chen, M. Z.) ; Lu, Y. (Lu, Y.) ; Wang, S. B. (Wang, S. B.) ; Wu, E. K. (Wu, E. K.) ; Bi, K. D. (Bi, K. D.) ; Ni, Z. H. (Ni, Z. H.) ; Sun, G. F. (Sun, G. F.)

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Abstract
Underwater laser directed energy deposition (UDED) can be employed to repair and maintain the offshore engineering structures due to its advantages of flexible adjustment of feedstock materials and controllable heat input to the structures. For the first time, preprepared HSLA-100 steel plates were successfully remanufactured by UDED at an ambient pressure of 0.3 MPa (water depth of 30 m). The relationships between the hyperbaric underwater environment, solidification process, microstructures and mechanical properties of the HSLA-100 steel were clarified. The large flow rates increased the cooling rates of the underwater melt pool. A lath martensitic microstructure with high dislocation densities and a number of inclusions was formed in the sample remanufactured by UDED. The in-situ precipitation of Cu-enriched nanoparticles was caused by the unique intrinsic heat treatment involved in the underwater deposition process. The average diameter of the Cu-enriched nanoparticles increased with increasing laser energy density. The microstructure of the sample remanufactured by UDED was harder than that of the sample remanufactured by in-air DED. The Charpy impact toughness and tensile properties of the samples remanufactured by UDED were close to those of the sample remanufactured by in-air DED. This work demonstrates the feasibility of high-quality remanufacturing of HSLA-100 steel via UDED in a hyperbaric underwater environment. The results obtained in this study could provide useful guidance for the application of UDED to offshore engineering structures.

Keywords
Author Keywords: Underwater directed energy deposition; HSLA-100 steel; Nano-precipitates; Microstructural evolution; Mechanical properties
Keywords Plus: MECHANICAL-PROPERTIES; LOW-CARBON; HEAT-TREATMENT; MICROSTRUCTURE; STRENGTH; PRECIPITATION; METAL; INCLUSIONS; MORPHOLOGY; NANOSCALE

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Categories/Classification
Research Areas: Materials Science; Physics

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Keywords

Author Keywords: FeCoCrNiAl; PVD nano coating; Laser shock peening; Wear and corrosion resistance; Compressive stress

Keywords Plus: PERFORMANCE; STRENGTH; MICROSTRUCTURE; TEMPERATURE

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Отдел развития публикационной активности ТПУ

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