**Thủy điện khai thác sức mạnh của dòng nước**

Năng lượng thủy điện là một dạng năng lượng khai thác sức mạnh của nước trong chuyển động, chẳng hạn như nước chảy qua thác, để tạo ra điện. Thủy điện mang lại tiềm năng đáng kể trong việc giảm phát thải carbon, vì lượng phát thải khí nhà kính (GHG) nói chung rất thấp. Thủy điện có thể cung cấp cả dịch vụ quản lý năng lượng và nước, đồng thời cũng giúp hỗ trợ các nguồn năng lượng tái tạo biến đổi khác như gió và mặt trời, bằng cách cung cấp các dịch vụ lưu trữ và cân bằng tải.



Để hiểu rõ hơn Cục Thông tin KH&CN quốc gia xin giới thiệu một số bài nghiên cứu đã được xuất bản chính thức và các bài viết được chấp nhận đăng trên những cơ sở dữ liệu học thuật chính thống. 

**Sciencedirect**

1. Poly (phthalazinone ether ketone) – Poly(3,4-ethylenedioxythiophene) fiber for thermoelectric and hydroelectric energy harvesting

Chemical Engineering Journal 13 July 2022 Volume 450, Part 2 (Cover date: 15 December 2022) Article 138093

Meijie QuHai WangYuezhen Bin

<https://www.sciencedirect.com/science/article/pii/S1385894722035793/pdfft?md5=96bc5e0c3242f9adf3fcc206193ecb66&pid=1-s2.0-S1385894722035793-main.pdf>

2. Dielectric and impedance studies of binary ZnO–CuO nanocomposites for hydroelectric cell application

Materials Chemistry and Physics 27 August 2022 Volume 291 (Cover date: 15 November 2022) Article 126690

ChitralekhaIndrajeet MauryaR. K. Kotnala

<https://www.sciencedirect.com/science/article/pii/S0254058422009968/pdfft?md5=98b437b7535d651eac0fc9e172f048d4&pid=1-s2.0-S0254058422009968-main.pdf>

3. Vibration characteristics analysis of shaft system for bulb hydroelectric generating unit based on magnetorheological fluid damper

Chaos, Solitons & Fractals 20 August 2022 Volume 163 (Cover date: October 2022) Article 112559

Leike ZhangHualin TangXueni Wang

<https://www.sciencedirect.com/science/article/pii/S0960077922007512/pdfft?md5=5976d615fe34be66e6d108a5e223cb6d&pid=1-s2.0-S0960077922007512-main.pdf>

4. Red mud industrial waste translated into green electricity production by innovating an ingenious process based on Hydroelectric Cell

Journal of Environmental Chemical Engineering 11 February 2022 Volume 10, Issue 2 (Cover date: April 2022) Article 107299

R. K. KotnalaRojaleena DasP. B. Sharma

<https://www.sciencedirect.com/science/article/pii/S2213343722001725/pdfft?md5=30bdd05622df36e8db3d9f2542be21b5&pid=1-s2.0-S2213343722001725-main.pdf>

5. Effects of added mass and moments of inertia on hydroelectric turbines for dynamic applications using structural acoustic simulation

Journal of Fluids and Structures 14 October 2022 Volume 115 (Cover date: November 2022) Article 103757

Rolf GustavssonDavid AhlsénCarl-Maikel Högström

<https://www.sciencedirect.com/science/article/pii/S0889974622001499/pdfft?md5=7e880aaf4529bff3ed1be63477ccd48f&pid=1-s2.0-S0889974622001499-main.pdf>

6. Performance evaluation of a residential building-based hydroelectric system driven by wastewater

Sustainable Cities and Society 13 January 2022 Volume 79 (Cover date: April 2022) Article 103694

Tristan WalkerJean Duquette

<https://www.sciencedirect.com/science/article/pii/S2210670722000282/pdfft?md5=9d90128e1843ab82315cfb5d56ebf532&pid=1-s2.0-S2210670722000282-main.pdf>

7. A two-layer control architecture for operational management and hydroelectricity production maximization in inland waterways using model predictive control

Control Engineering Practice 29 April 2022 Volume 124 (Cover date: July 2022) Article 105172

Fatemeh Karimi PourPablo SegoviaVicenç Puig

<https://www.sciencedirect.com/science/article/pii/S0967066122000697/pdfft?md5=974fed99eb6597561bbad0b9f33294b6&pid=1-s2.0-S0967066122000697-main.pdf>

8. Validation of a numerical model for hot-spot detection on the surface of a rotor pole using a scale model of a hydroelectric generator

Applied Thermal Engineering 14 July 2022 Volume 215 (Cover date: October 2022) Article 118967

K. VenneF. TorrianoB. R. Baliga

<https://www.sciencedirect.com/science/article/pii/S135943112200905X/pdfft?md5=c2727df106b54326fb759ef66b2621fb&pid=1-s2.0-S135943112200905X-main.pdf>

9. A conformable fractional unbiased grey model with a flexible structure and it’s application in hydroelectricity consumption prediction

Journal of Cleaner Production 8 July 2022 Volume 367 (Cover date: 20 September 2022) Article 133029

Yitong LiuYang YangDingyu Xue

<https://www.sciencedirect.com/science/article/pii/S095965262202621X/pdfft?md5=06c24506646272d2d73c7fd6ba6bff52&pid=1-s2.0-S095965262202621X-main.pdf>

10. Time series forecasting using ensemble learning methods for emergency prevention in hydroelectric power plants with dam

Electric Power Systems Research 20 September 2021 Volume 202 (Cover date: January 2022) Article 107584

Stéfano Frizzo StefenonMatheus Henrique Dal Molin RibeiroLaio Oriel Seman

<https://www.sciencedirect.com/science/article/pii/S0378779621005654/pdfft?md5=a394e63a03f3c345fd263b0f2f479fdc&pid=1-s2.0-S0378779621005654-main.pdf>

11. Physical model test and parametric optimization of a hydroelectric generating system with a coaxial shaft surge tank

Renewable Energy 6 October 2022 Volume 200 (Cover date: November 2022) Pages 880-899

Xinyao LanJiahui JinYuan Kuang

<https://www.sciencedirect.com/science/article/pii/S0960148122014951/pdfft?md5=017f79be73469d96bf0e26987ea0a99c&pid=1-s2.0-S0960148122014951-main.pdf>

12. Environmental impact of renewable energy source based electrical power plants: Solar, wind, hydroelectric, biomass, geothermal, tidal, ocean, and osmotic

Renewable and Sustainable Energy Reviews 10 March 2022 Volume 161 (Cover date: June 2022) Article 112279

Abidur RahmanOmar FarrokMd Mejbaul Haque

<https://www.sciencedirect.com/science/article/pii/S136403212200199X/pdfft?md5=c6425280661751184178dd8af6a6f3ab&pid=1-s2.0-S136403212200199X-main.pdf>

13. Analysis of the trade-off between hydroelectricity generation and ecological protection from the perspective of eco-efficiency in Southwest China

Journal of Environmental Management 29 April 2022 Volume 315 (Cover date: 1 August 2022) Article 115063

Weiqian WangHuimin WangLi Gao

<https://www.sciencedirect.com/science/article/pii/S0301479722006363/pdfft?md5=c3ff24d0f1baa019eb2d6bc2abd7b54e&pid=1-s2.0-S0301479722006363-main.pdf>

14. Harmonics propagation and interaction evaluation in small-scale wind farms and hydroelectric generating systems

ISA Transactions 4 March 2022 Volume 129, Part B (Cover date: October 2022) Pages 334-344

Ziwen ZhaoMd. Apel MahmudBeibei Xu

<https://www.sciencedirect.com/science/article/pii/S0019057822001100/pdfft?md5=5ec99e2de9ed3de4b526460381e91b7b&pid=1-s2.0-S0019057822001100-main.pdf>

15. Techno economic viability of hydroelectric energy storage systems for high-rise buildings

Journal of Energy Storage 14 June 2022 Volume 53 (Cover date: September 2022) Article 105044

Tristan WalkerJean Duquette

<https://www.sciencedirect.com/science/article/pii/S2352152X22010465/pdfft?md5=ee579aed2ddd14e47fb19c05b59924ca&pid=1-s2.0-S2352152X22010465-main.pdf>

16. Modeling the spatial and temporal variability in surface water CO2 and CH4 concentrations in a newly created complex of boreal hydroelectric reservoirs

Science of The Total Environment 21 December 2021 Volume 815 (Cover date: 1 April 2022) Article 152459

Felipe RustPascal BodmerPaul del Giorgio

<https://www.sciencedirect.com/science/article/pii/S0048969721075379/pdfft?md5=5dba773de3f3b2653563301f553714ba&pid=1-s2.0-S0048969721075379-main.pdf>

17. Climate change negative effects on the Neotropical fishery resources may be exacerbated by hydroelectric dams

Science of The Total Environment 10 March 2022 Volume 828 (Cover date: 1 July 2022) Article 154485

Luiza Moura PelusoLúcia MateusPriscila Lemes

<https://www.sciencedirect.com/science/article/pii/S0048969722015789/pdfft?md5=9cf0c88270124ad519466b8a80a7a736&pid=1-s2.0-S0048969722015789-main.pdf>

18. Water supply monitoring system with self-powered LoRa based wireless sensor system powered by solar and hydroelectric energy harvester

Computer Standards & Interfaces 8 February 2022 Volume 82 (Cover date: August 2022) Article 103630

Mukesh BathrePradipta Kumar Das

<https://www.sciencedirect.com/science/article/pii/S0920548922000113/pdfft?md5=a241a4447f48effb85ce3537e97a2292&pid=1-s2.0-S0920548922000113-main.pdf>

19. Interval uncertainty analysis of vibration response of hydroelectric generating unit based on Chebyshev polynomial

Chaos, Solitons & Fractals 2 January 2022 Volume 155 (Cover date: February 2022) Article 111712

Donglin YanYang ZhengQijuan Chen

<https://www.sciencedirect.com/science/article/pii/S0960077921010663/pdfft?md5=ac0dc8436e0d6a8259752d927e06d85f&pid=1-s2.0-S0960077921010663-main.pdf>

20. Effect of incoming gravity waves on the energy extraction efficiency of flapping wing hydroelectric generators

Ocean Engineering 12 January 2022 Volume 245 (Cover date: 1 February 2022) Article 110590

Bing ZhuZhiwei TaiJunwei Zhang

<https://www.sciencedirect.com/science/article/pii/S0029801822000610/pdfft?md5=b74af0c6d277074c63e7e62465514019&pid=1-s2.0-S0029801822000610-main.pdf>

21. How various energy sources affect industrial investment? Empirical evidence from Asian economies

Energy 25 February 2022 Volume 248 (Cover date: 1 June 2022) Article 123536

Umar FarooqJaleel AhmedMuhammad Shahbaz

<https://www.sciencedirect.com/science/article/pii/S036054422200439X/pdfft?md5=02638422a38d8dcbb0275057deb804bb&pid=1-s2.0-S036054422200439X-main.pdf>

22. Comparison of misallocation between the Chinese thermal power and hydropower electricity industries

Economic Modelling 26 August 2022 Volume 116 (Cover date: November 2022) Article 106007

Chin-Hsien YuJinsong ZhaoWen-Chieh Lee

<https://www.sciencedirect.com/science/article/pii/S0264999322002474/pdfft?md5=653103712a0d3d945366ee03d35076be&pid=1-s2.0-S0264999322002474-main.pdf>

23. Application of electromagnetic continuous variable transmission in hydraulic turbines to increase stability of an off-grid power system

Renewable Energy 24 June 2022 Volume 196 (Cover date: August 2022) Pages 125-136

Andrey A. AchitaevKonstantin V. SuslovAndrey V. Minakov

<https://www.sciencedirect.com/science/article/pii/S0960148122008941/pdfft?md5=1195c8bbc1854970317f04c4bb643f03&pid=1-s2.0-S0960148122008941-main.pdf>

24. Renewable energy sources as a solution for energy security risk: Empirical evidence from OECD countries

Renewable Energy 17 November 2021 Volume 183 (Cover date: January 2022) Pages 617-626

Raif Cergibozan

<https://www.sciencedirect.com/science/article/pii/S0960148121016384/pdfft?md5=e68e6187104f733cbcaff1138e2d40ef&pid=1-s2.0-S0960148121016384-main.pdf>

25. Assessment of floating solar photovoltaic potential in India’s existing hydropower reservoirs

Energy for Sustainable Development 17 June 2022 Volume 69 (Cover date: August 2022) Pages 64-76

G. MamathaP. S. Kulkarni

<https://www.sciencedirect.com/science/article/pii/S0973082622000825/pdfft?md5=0f5becdc54f9e5c06295e5f584bf2d51&pid=1-s2.0-S0973082622000825-main.pdf>

26. Design and operation optimization of city-level off-grid hydro–photovoltaic complementary system

Applied Energy 5 November 2021 Volume 306, Part B (Cover date: 15 January 2022) Article 118000

Bo ZhangRui QiuRui Jing

<https://www.sciencedirect.com/science/article/pii/S0306261921013027/pdfft?md5=1c7ac2de2300050e387683968ad1ca15&pid=1-s2.0-S0306261921013027-main.pdf>

27. Preliminary feasibility analysis for remaking the function of cascade hydropower stations to enhance hydropower flexibility: A case study in China

Energy 17 August 2022 Volume 260 (Cover date: 1 December 2022) Article 125163

Juntao ZhangChuntian ChengHuaying Su

<https://www.sciencedirect.com/science/article/pii/S0360544222020564/pdfft?md5=7fb3989787a7f4a9ec8a6f549b49064e&pid=1-s2.0-S0360544222020564-main.pdf>

28. Daily peak-shaving model of cascade hydropower serving multi-grids considering an HVDC channel shared constraint

Renewable Energy 5 September 2022 Volume 199 (Cover date: November 2022) Pages 112-122

Shengli LiaoHualong YangHuijun Wu

<https://www.sciencedirect.com/science/article/pii/S0960148122013337/pdfft?md5=27ccbcdcff44f36e22426a98c3ee4807&pid=1-s2.0-S0960148122013337-main.pdf>

29. Water and carbon risks within hydropower development on national scale

Applied Energy 26 August 2022 Volume 325 (Cover date: 1 November 2022) Article 119872

Xiuzhi ChenChang LiuYunkai Li

<https://www.sciencedirect.com/science/article/pii/S0306261922011382/pdfft?md5=b8289db5ed1d81282c67cf09f7d3ee41&pid=1-s2.0-S0306261922011382-main.pdf>

30. Chance-constrained co-optimization for day-ahead generation and reserve scheduling of cascade hydropower–variable renewable energy hybrid systems

Applied Energy 31 July 2022 Volume 324 (Cover date: 15 October 2022) Article 119732

Juntao ZhangChuntian ChengHuaying Su

<https://www.sciencedirect.com/science/article/pii/S0306261922010224/pdfft?md5=462f317f5254b85b6b2f422dc7fcc02c&pid=1-s2.0-S0306261922010224-main.pdf>

31. Cascade hydropower stations short-term operation for load distribution considering water level synchronous variation

Renewable Energy 12 July 2022 Volume 196 (Cover date: August 2022) Pages 683-693

Kaixuan LeiJianxia ChangBo Xu

<https://www.sciencedirect.com/science/article/pii/S0960148122010345/pdfft?md5=cda0b26d5803546b39d7b5cca0ae950a&pid=1-s2.0-S0960148122010345-main.pdf>

**Springer**

1. Studies on structural and optical behavior of nanoporous potassium-substituted magnesium ferrite nanomaterials, and their application as a hydroelectric cell

Aniket Manash, Rakesh Kumar Singh, Vivek Kumar, Shashank Bhushan Das, Singh Sonu Kumar, Nishant Kumar, Jyoti Shah & R. K. Kotnala

Journal of Materials Science: Materials in Electronics volume 33, pages 22103–22118 (2022)

<https://link.springer.com/content/pdf/10.1007/s10854-022-08978-0.pdf>

2. Electricity generation cost reduction for hydrothermal systems with the presence of pumped storage hydroelectric plants

Phu Trieu Ha, Dao Trong Tran & Thang Trung Nguyen

Neural Computing and Applications volume 34, pages 9931–9953 (2022)

<https://link.springer.com/content/pdf/10.1007/s00521-022-06977-0.pdf>

3. Development of a New Simulation Model for the Reservoir Hydropower Generation

Rahim Zahedi, Reza Eskandarpanah, Mohammadhossein Akbari, Nima Rezaei, Paniz Mazloumin & Omid Noudeh Farahani

Water Resources Management volume 36, pages 2241–2256 (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-022-03138-9.pdf>

4. Designing hydro-energy led economic growth for pollution abatement: evidence from BRICS

Devi Prasad Dash, Aruna Kumar Dash & Narayan Sethi

Environmental Science and Pollution Research volume 29, pages 31252–31269 (2022)

<https://link.springer.com/content/pdf/10.1007/s11356-021-17890-9.pdf>

5. Projected impacts of climate change on major dams in the Upper Yangtze River Basin

Pengcheng Qin, Hongmei Xu, Min Liu, Lüliu Liu, Chan Xiao, Iman Mallakpour, Matin Rahnamay Naeini, Kuolin Hsu & Soroosh Sorooshian

Climatic Change volume 170, Article number: 8 (2022)

<https://link.springer.com/content/pdf/10.1007/s10584-021-03303-w.pdf>

6. Nexus between tourism, hydropower, and CO2 emissions in India: fresh insights from ARDL and cumulative fourier frequency domain causality

Arunava Bandyopadhyay, Soumen Rej, Kashif Raza Abbasi & Ashar Awan

Environment, Development and Sustainability (2022)

<https://link.springer.com/content/pdf/10.1007/s10668-022-02511-3.pdf>

7. Determinants of China’s renewable energy industry development: do eco-innovation and financial inclusion matter?

Peng Liu, Xinwei Gao, Lei Yu & Muhammad Tayyab Sohail

Environmental Science and Pollution Research (2022)

<https://link.springer.com/content/pdf/10.1007/s11356-022-22817-z.pdf>

8. Quantitative Investigation on Strengthening and Toughening Mechanism of 1000 MPa Grade Hydropower Steel

Tao Jia, Shun Wang, Naiyou Xiao & Meiying Li

Journal of Materials Engineering and Performance (2022)

<https://link.springer.com/content/pdf/10.1007/s11665-022-07350-x.pdf>

9. Epistemic community in transboundary river regime: a case study in the Mekong River Commission regarding mainstream hydropower development

Tang Luu, Erik van Slobbe, Jos Timmerman, Loc Huu Ho, Tran Duc Dung & Chau Nguyen Xuan Quang

Environmental Monitoring and Assessment volume 194, Article number: 771 (2022)

<https://link.springer.com/content/pdf/10.1007/s10661-022-10176-8.pdf>

10. Deformation Characteristics and Mechanism of Side Walls of Wudongde Hydropower Station

Lu Weiyong & He Changchun

Geotechnical and Geological Engineering volume 40, pages 4657–4671 (2022)

<https://link.springer.com/content/pdf/10.1007/s10706-022-02176-9.pdf>

11. Improving the Summer Power Generation of a Hydropower Reservoir Using the Modified Multi-Step Ahead Time-Varying Hedging Rule

Soe Thiha, Asaad Y. Shamseldin & Bruce W. Melville

Water Resources Management volume 36, pages 853–873 (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-021-03043-7.pdf>

12. Does hydropower production influence agriculture industry growth to achieve sustainable development in the EU economies?

Mohd Alsaleh & Abdul Samad Abdul-Rahim

Environmental Science and Pollution Research (2022)

<https://link.springer.com/content/pdf/10.1007/s11356-022-22583-y.pdf>

13. An Efficient Optimization Method for Long-term Power Generation Scheduling of Hydropower Station: Improved Dynamic Programming with a Relaxation Strategy

Zhongzheng He, Chao Wang, Yongqiang Wang, Hairong Zhang & Heng Yin

Water Resources Management volume 36, pages 1481–1497 (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-022-03096-2.pdf>

14. Adaptive Neural-Based Fuzzy Inference System and Cooperation Search Algorithm for Simulating and Predicting Discharge Time Series Under Hydropower Reservoir Operation

Zhong-kai Feng, Wen-jing Niu, Peng-fei Shi & Tao Yang

Water Resources Management volume 36, pages 2795–2812 (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-022-03176-3.pdf>

15. Distribution characteristics of valley stress of hydropower engineering projects in western Sichuan

Jingxi Yang, Xiaoping Zhao, Shengwu Song, Xiaoxiang Du, Fei Wu & Quanle Zou

Bulletin of Engineering Geology and the Environment volume 81, Article number: 156 (2022)

<https://link.springer.com/content/pdf/10.1007/s10064-022-02647-6.pdf>

16. Refined Scheduling Based on Dynamic Capacity Model for Short-term Hydropower Generation

Rongqi Zhang, Shanghong Zhang, Xiaoxiong Wen & Zhu Jing

Water Resources Management (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-022-03352-5.pdf>

17. Critical sectional area of surge tank based on bifurcation and chaos behaviors of hydraulic-mechanical coupling hydropower station

Wencheng Guo & Xinyu Xu

Nonlinear Dynamics volume 110, pages 1297–1322 (2022)

<https://link.springer.com/content/pdf/10.1007/s11071-022-07672-4.pdf>

18. An assessment tool for estimating effects of entrainment at hydropower facilities on adfluvial fish populations

Hsien-Yung Lin, Eduardo G. Martins, Michael Power, James A. Crossman, Alf J. Leake & Steven J. Cooke

Environment Systems and Decisions (2022)

<https://link.springer.com/content/pdf/10.1007/s10669-022-09858-y.pdf>

19. Generation hybrid forecasting for frequency-modulation hydropower station based on improved EEMD and ANN adaptive switching

Shuai Zhang, Shi-Jun Chen, Guang-wen Ma, Wei-bin Huang & Bin Li

Electrical Engineering (2022)

<https://link.springer.com/content/pdf/10.1007/s00202-022-01526-3.pdf>

20. A novel operation rule and policy of a multi-reservoir system on the Lancang River to balance ecological requirements and hydropower benefits

Liuyu Xue, Xin Wen, Huaying Su, Liuming Xiong, Chaojun Sun & Shan Wang

Arabian Journal of Geosciences volume 15, Article number: 1326 (2022)

<https://link.springer.com/content/pdf/10.1007/s12517-022-10571-y.pdf>

21. Improved Whale Algorithm for Economic Load Dispatch Problem in Hydropower Plants and Comprehensive Performance Evaluation

Kun Yang & Kan Yang

Water Resources Management (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-022-03302-1.pdf>

22. Performance Indexes Analysis of the Reservoir-Hydropower Plant System Affected by Climate Change

Parvin Golfam & Parisa-Sadat Ashofteh

Water Resources Management volume 36, pages 5127–5162 (2022)

<https://link.springer.com/content/pdf/10.1007/s11269-022-03295-x.pdf>

23. Optimal operation of hydropower reservoirs under climate change

Mohammad Ehteram, Ali Najah Ahmed, Chow Ming Fai, Sarmad Dashti Latif, Kwok-wing Chau, Kai Lun Chong & Ahmed El-Shafie

Environment, Development and Sustainability (2022)

<https://link.springer.com/content/pdf/10.1007/s10668-022-02497-y.pdf>

24. Risk Assessment and Mitigation Evaluation for Rockfall Hazards at the Diversion Tunnel Inlet Slope of Jinchuan Hydropower Station by Using Three-dimensional Terrestrial Scanning Technology

Mao-pu Xia, Hai-bo Li, Nan Jiang, Jun-lin Chen & Jia-wen Zhou

KSCE Journal of Civil Engineering (2022)

<https://link.springer.com/content/pdf/10.1007/s12205-022-1679-8.pdf>

25. Sliding–cracking deformation analysis of the rock slope at Maji Hydropower Station, Southwest China

Xiuhong Zheng, Qihua Zhao, Ming Yan, Yapeng Chen & Junfeng Jiang

Arabian Journal of Geosciences volume 15, Article number: 608 (2022)

<https://link.springer.com/content/pdf/10.1007/s12517-022-09856-z.pdf>

Nguồn: Cục Thông tin khoa học và công nghệ quốc gia, 28/10/2022