
APS **(AMERICAN PHYSICAL SOCIETY)** **이용 매뉴얼**

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1. 출판사 소개 및 수록 내용

□ 출판사 소개

- "To advance and diffuse the knowledge of physics"를 모토로 1899년 설립된 APS(American Physical Society)는 전 세계에서 두 번째로 규모가 큰 물리학회로 가장 많이 인용되고 있는 Physical Review를 비롯하여 13종 이상의 저널을 출판하고 있으며, 매년 물리학 관련 20회 이상의 학술행사를 개최하고 있습니다.
- APS는 자체 플랫폼을 통해 저널을 제공하고 있으며, 이용자의 편의성을 고려하여 최상의 서비스를 제공하고자 노력하고 있습니다. APS에는 전세계 대학, 연구소 및 기업으로부터 51,000명 이상의 물리학자가 멤버가 활동하고 있습니다.

□ 수록내용


- 주제분야 : 일반 물리/응용물리 등 물리학
- 제공연도 : 1930 ~ 현재
- 제공종수 : 저널 13종
- URL: <http://www.aps.org/publications>

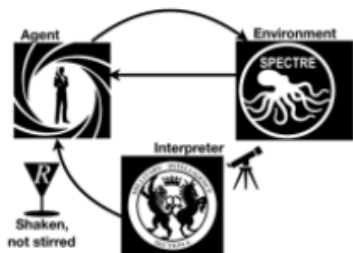
2. APS 홈페이지 저널 이용방법

홈페이지 URL) [HTTPS://JOURNALS.APS.ORG/](https://journals.aps.org/)

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PRL ON THE COVER

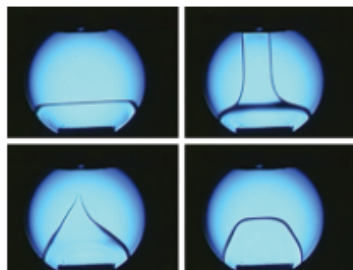
Reinforcement Learning Approach to Nonequilibrium Quantum Thermodynamics

January 13, 2021

Reinforcement learning: An agent observes the environment acquiring its state (straight arrow), then decides to implement an action (upper curved arrow) thus updating the environment state for the next step. Based on the outcomes an interpreter grants the agent a reward R (lower curved arrow), which the agent aims to maximize.

Pierpaolo Sgroi, G. Massimo Palma, and Mauro Paternostro
Phys. Rev. Lett. **126**, 020601 (2021)

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RMP ON THE COVER

Colloquium: Quantum crystallizations of ^4He in superfluid far from equilibrium

December 2, 2020

Bosonic helium is one of the most quantum mechanical materials ever studied in physics. It shows the famous Bose-Einstein condensation at extremely low temperatures. Although the equilibrium properties of

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2. APS 홈페이지 저널 이용방법

PHYSICAL REVIEW A 선택

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covering atomic, molecular, and optical physics and quantum information

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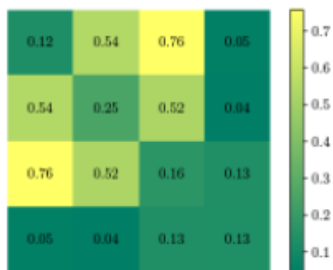
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EDITORS' SUGGESTION

Estimating the gradient and higher-order derivatives on quantum hardware

The authors show how to evaluate, with near-term quantum computers, high-order derivatives of expectation values with respect to the variational parameters of quantum circuits. The authors also study how such derivatives are affected by statistical noise. Their theoretical results are then tested with both numerical simulations and experiments.

Andrea Mari, Thomas R. Bromley, and Nathan Killoran
Phys. Rev. A **103**, 012405 (2021)

2. APS 홈페이지 저널 이용방법

원문 열람

The image shows a screenshot of the APS Physical Review A journal website. The page title is "PHYSICAL REVIEW A" with the subtitle "covering atomic, molecular, and optical physics and quantum information". The navigation bar includes "Highlights", "Recent", "Accepted", "Collections", "Authors", "Referees", "Search", "Press", "About", and "Staff".

The main article title is "Estimating the gradient and higher-order derivatives on quantum hardware" by Andrea Mari, Thomas Monz, and Philipp Schindler. The journal information is "Phys. Rev. A 103, 012301 (2021)".

Annotations in blue boxes point to various features:

- 레퍼런스 정보** (Reference information) points to the "References" button.
- 인용 정보** (Citation information) points to the "Export Citation" button.
- 타 플랫폼 공유 횟수/공유하기** (Number of shares on other platforms/Share) points to the social media sharing icons (Twitter, Facebook, etc.) and the "More" button.
- Abstract/저자 정보** (Abstract/Author information) points to the "Article" button.
- 원문 PDF, HTML 보기** (View original PDF, HTML) points to the "PDF" and "HTML" buttons.

The article abstract text is partially visible: "For a large class of variational quantum circuits, we show how arbitrary-order derivatives can be analytically evaluated in terms of simple parameter-shift rules, i.e., by running the same circuit with different shifts of the parameters. As particular cases, we obtain parameter-shift rules for the Hessian of an expectation value and for the metric tensor of a variational state, both of which can be efficiently used to analytically implement second-order optimization algorithms on a quantum computer. We also consider the impact of statistical noise by studying the mean-square error of different derivative estimators. Some of the theoretical techniques for evaluating quantum derivatives are applied to their typical use case: the implementation of quantum optimizers. We find that the performance of different estimators and optimizers is intertwined with the values of different hyperparameters, such as the step size or the number of shots. Our findings are supported by several numerical and hardware experiments, including an experimental estimation of the Hessian of a simple variational circuit and an

On the right side, there is a "Check for updates" button and a "Reuse & Permissions" button.

3. APS 홈페이지 저널 검색방법

TITLE 검색

The screenshot shows the APS Physics website with several annotations:

- Top Right:** A search bar with the placeholder text "Journal, vol, page, DOI, etc." and a magnifying glass icon.
- Header:** "PHYSICAL REVIEW JOURNALS" logo and navigation links: Journals, Authors, Referees, Browse, Search, Press.
- Search Callout:** A blue box with a white border around the "Search" link, labeled "Search 클릭".
- Keyword Callout:** A white callout bubble pointing to the search bar, containing the text "검색 키워드 삽입" and "키워드 예시 : Plasma".
- Advanced Search Callout:** A white callout bubble pointing to the search bar, containing the text "▼클릭 시 상세 검색 가능".
- Search Modal:** A large white box with a blue border and a close button (X) in the top right corner. It contains:
 - Search:** A dropdown menu set to "All Fields", a text input field, and a blue "Search" button.
 - Article Lookup:** A section titled "Article Lookup" with the instruction "Paste a citation or DOI". It has a text input field containing "e.g. Phys. Rev. Lett. 111, 012345" and a blue "Lookup" button.
 - Enter a citation:** A section with three input fields: "Journal:" (a dropdown menu with "Phys. Rev. Lett." selected), "Volume:", and "Article:". It has a blue "Lookup" button.
- Background Content:** A banner for "PRL ON THE COVER" featuring a red and white image of a sphere and the text "Astrometric Search for Resolvable Gravitational Wave Sources with Gaia".
- Footer:** The text "applications in optoelectronics, sensing, and laser science."

3. APS 홈페이지 저널 검색방법

TITLE 검색

검색 필드 설정 -
전체분야/저자/서지정보/Title/인용저자/소속/공동연구

All Fields Search keywords + Search

Most Recent

검색 결과 정렬 방법 - 최신순, 관련순, 과거순, 인용순

검색 키워드 삽입
키워드 예시 : Plasma

Filters

Date:
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검색 기간 설정

Journal:

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| <input type="checkbox"/> Phys. Rev. Lett. | <input type="checkbox"/> Phys. Rev. X | <input type="checkbox"/> Rev. Mod. Phys. | <input type="checkbox"/> Phys. Rev. A |
| <input type="checkbox"/> Phys. Rev. B | <input type="checkbox"/> Phys. Rev. C | <input type="checkbox"/> Phys. Rev. D | <input type="checkbox"/> Phys. Rev. E |
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| <input type="checkbox"/> Phys. Rev. Phys. Educ. Res. | <input type="checkbox"/> Physics | <input type="checkbox"/> Phys. Rev. | <input type="checkbox"/> Phys. Rev. (Series I) |
| <input type="checkbox"/> Phys. Rev. Focus | <input type="checkbox"/> Physics Physique Fizika | | |

저널 설정

Category:

- Featured in Physics Editors' Suggestion Open Access PRL Milestone

카테고리 설정

3. APS 홈페이지 저널 검색방법

검색 결과

Results / **1-20 of 46,948**

검색 결과 수치

You searched for **plasma**

검색 키워드

Sort

- Most Recent
- Most Relevant
- Oldest First
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PhySH Concept

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- Relativistic heavy-ion collisions (1,089)
- Quantum field theory (864)
- 3-dimensional systems (841)
- Optical & microwave phenomena (790)
- Atomic & molecular processes in external fields (723)
- Strong interaction (713)

PhySH : Physical Subject Headings
PhySH컨셉, 분야, 카테고리, 아티클 타입, 저널 별 분류 가능

PRL

Threshold Heat-Flux Reduction by Near-Resonant Energy Transfer

P.W. Terry, P.-Y. Li, M. J. Pueschel, and G. G. Whelan

PDF

HTML

Gravitational wave signatures of lepton universality violation

Bartosz Fornal

Phys. Rev. D **103**, 015018 (2021) - Published 15 January 2021

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