

●物理学 Physics

1. 所属構成員等

准教授 小野裕明
講師 渡辺みのり(兼任)
客員教授 宮田等

2. 研究テーマ

1. Belle II 実験のための分散コンピューティングシステムの研究 R&D of distributed computing system for Belle II experiment
2. ILC実験のための分散コンピューティングシステムの研究 R&D of distributed computing system for ILC experiment
3. ILC実験のためのカロリメータ検出器開発研究 R&D of calorimeter detector for ILC experiment
4. 原子炉ニュートリノ検出器の開発 Development of reactor neutron monitor
5. 常温硬化プラスチックシンチレータの開発 Development of plastic scintillator cured at room temperature

3. 今年度の研究上の特筆すべき事項

学会賞

記載事項なし

特許

記載事項なし

4. 学位取得者

記載事項なし

5. 主催学会等

記載事項なし

6. 国際交流状況

1. 新潟大学と共同でフィリピンミンダナオ州立大学イリガン工科校との共同研究を行なっている。
2. 国際リニアコライダー(ILC)実験のILD検出器グループ・CALICEグループに参加し、国際共同研究を行なっている。特にILDソフトウェアグループではシミュレーションデータ生成の共同責任者としての役割を担っている。
3. 国際共同実験Belle/Belle IIグループに参加し、DIRACシステムを用いたシミュレーションデータ生成のための計算資源の提供・管理、コンピューティンググループのエキスパートリーダー・エキスパートとしてデータ生成モニタリングの役割を担っている。

7. 外部研究費

1. 科学研究費補助金, 若手研究B, (継続), 2020-2022年度, 常温硬化樹脂を用いた大面積薄膜プラスチックシンチレータによる α 線検出器開発, 渡辺みのり(代表), 1820000円
2. 科学研究費補助金, 基盤研究C, (継続), 2019-2022年度, 常温硬化プラスチックシンチレータの基本性能向上と高機能化に向けた研究, 小野裕明(代表), 520000円

8. 研究業績

A. 著書

記載事項なし

B. 原著

1. Abudinén F, Adachi I, Adak R, Adamczyk K, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (359, 514th) (551 authors). Study of $B \rightarrow D(*)h$ decays using 62.8 fb $^{-1}$ of Belle II data. $\diamond$ arXiv. 2021; 1–19. doi : 10.48550/arXiv.2104.03628.
2. Abudinén F, Adachi I, Adak R, Adamczyk K, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (356, 511th) (547 authors). Measurement of the branching fractions of $B \rightarrow \eta' K$ decays using 2019/2020 Belle II data. $\diamond$ arXiv. 2021; 1–17. doi : 10.48550/arXiv.2104.06224.
3. Li S. X, Shen C. P, (Belle Collaboration), Ono H (127th) (205 authors). Measurements of the branching fractions of $\Lambda c^+ \rightarrow p \eta$ and $\Lambda c^+ \rightarrow p \pi^0$ decays at Belle. $\star \odot$ Phys. Rev. D. 2021; 103: 072004–1–072004–9. doi : 10.1103/PhysRevD.103.072004.
4. Park S.-H, Kwon Y.-J, (Belle Collaboration), Ono H, Watanabe M (137, 204th) (219 authors). Search for the dark photon in $B^0 \rightarrow A' A'$, $A' \rightarrow e^+e^-$, $\mu^+\mu^-$, and $\pi^+\pi^-$ decays at Belle. $\star \odot$ JHEP. 2021; 191: 1–19. doi : 10.1007/JHEP04(2021)191.
5. Gebauer U, Beleño C, Frey A, (Belle Collaboration), Ono H (139th) (212 authors). Measurement of the branching fractions of the $B^+ \rightarrow \eta \ell^+ \nu \ell$ decays with signal-side only reconstruction in the full q^2 range. $\diamond$ arXiv. 2021; 1–9. doi : 10.48550/arXiv.2104.13354.
6. Abudinén F, Adachi I, Adak R, Adamczyk K, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (361, 516th) (553 authors). First search for direct CP-violating asymmetry in $B^0 \rightarrow K^0 \pi^0$ decays at Belle II. $\diamond$ arXiv. 2021; 1–19. doi : 10.48550/arXiv.2104.14871.
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9. Wang X. L, Gao B. S, Zhu W. J, (Belle Collaboration), Ono H, Watanabe M (129, 191th) (203 authors). The study of $\gamma \gamma \rightarrow \gamma \phi(2S)$ at Belle. $\diamond$ arXiv. 2021; 1–19. doi : 10.48550/arXiv.2105.06605.
10. Abudinén F, Adachi I, Adak R, Adamczyk K, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (360, 515th) (552 authors). Measurement of the time-integrated mixing probability χ_d with a semileptonic double-tagging strategy and 34.6 fb $^{-1}$ of Belle II collision data. $\diamond$ arXiv. 2021; 1–19. doi : 10.48550/arXiv.2106.00482.
11. McNeil J. T, Yelton J, Bennett J, (Belle Collaboration), Ono H, Watanabe M (126, 185th) (195 authors). Measurement of the resonant and nonresonant branching ratios in $\Xi^0 c \rightarrow \Xi^0 K^+ K^-$. $\star \odot$ Phys. Rev. D. 2021; 103: 112002–1–112002–11. doi : 10.1103/PhysRevD.103.112002.
12. Abudinén F, Adachi I, Adak R, Adamczyk K, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (359, 514th) (551 authors). Measurements of branching fractions and direct CP asymmetries in $B^0 \rightarrow K^+ \pi^-$, $B^+ \rightarrow K^0 \pi^+$ and $B^0 \rightarrow \pi^+ \pi^-$ using 2019 and 2020 data. $\diamond$ arXiv. 2021; 1–23. doi : 10.48550/arXiv.2106.03766.
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15. Abudinén F, Adachi I, Adak R, Adamczyk K, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (356, 511th) (547 authors). Rediscovery of $B^0 \rightarrow J/\psi K^0 L$ at Belle II. $\diamond$ arXiv. 2021; 1–15. doi : 10.48550/arXiv.2106.13547.
16. Jia S, Tang S. S, Shen C. P, (Belle Collaboration), Ono H, Watanabe M (122, 175th) (188 authors). Measurements of branching fractions and asymmetry parameters of $\Xi^0 c \rightarrow \Lambda K^* \pi^0$, $\Xi^0 c \rightarrow \Sigma^0 K^* \pi^0$, and $\Xi^0 c \rightarrow \Sigma^+ K^* \pi^-$ decays at Belle. $\star \odot$ JHEP. 2021; 160: 1–17. doi : 10.1007/JHEP06(2021)160.

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C. 解説・総説

記載事項なし

D. 報告・紀要

特記事項なし

E. 翻訳

特記事項なし

F. 学術大会(口演・ポスター発表)・講演会・研究会・研修会等での講演

1. Hiroaki Ono. Shift summary (including usage of Rucio monitor). 39th Belle II general meeting, WEB開催, 2021年6月14日
2. Hiroaki Ono. 250 GeV MC sample production. Seasonal ILC-JP detector meeting, WEB開催, 2021年7月12日
3. Hiroaki Ono. Operation summary. 40th Belle II general meeting, WEB開催, 2021年10月11日
4. Hiroaki Ono. Operation overview. 41st Belle II general meeting, WEB開催, 2022年1月17日
5. Hiroaki Ono. Distributed Computing Operation Summary. 41st Belle II general meeting (Plenary session), WEB開催, 2022年1月26日

8-G 講演

1) 特別講演・シンポジウム等での講演

記載事項なし