●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（併任）
客員教授　　宮田等
非常勤講師　山下陽介, 初鹿野力

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 neutorino 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データ生成技術責任者・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), 2020-2023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), 650000円

8. 研究業績

A. 著書

記載事項なし

B. 原著

1. Ma Y, Yelton J, Tanida K, (Belle Collaboration), Ono H, Watanabe M (128, 184th) (197 authors). First Observation of $\Lambda\pi+$ and $\Lambda\pi-$ Signals near the $\bar{}$KN(I=1) Mass Threshold in $\Lambda+c\rightarrow\Lambda\pi+\pi+\pi-$ Decay. ☆◎Phys. Rev. Lett.. 2023; 130: 151903-1-151903-7. doi : 10.1103/PhysRevLett.130.151903.
2. Gong G, Li L.K, Zhang Y, Yan W, (Belle Collaboration), Ono H, Watanabe M (126, 184th) (197 authors). Study of $e+e-\rightarrow\Sigma0\bar{}\Sigma0$ and $\Sigma+\bar{}\Sigma-$ by initial state radiation method at Belle. ☆◎Phys. Rev. D. 2023; 107: 072008-1-072008-14. doi : 10.1103/PhysRevD.107.072008.
3. Abudinén F, Adachi I, Adamczyk K, Aggarwal L, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (364, 544th) (579 authors). Observation of B→D(*)K−K0S decays using the 2019-2022 Belle II data sample.◇arXiv. 2023; 1-17. doi : 10.48550/arXiv.2305.01321.
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5. Abudinén F, Adachi I, Adamczyk K, Aggarwal L, Ahlburg P, (Belle II Collaboration), Ono H, Watanabe M (364, 544th) (579 authors). Search for lepton-flavor-violating $\tau\longrightarrow\ell-\phi$ decays in 2019-2021 Belle II data.◇arXiv. 2023; 1-17. doi : 10.48550/arXiv.2305.04759.
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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. 小野裕明. 分散コンピューティング. 第六回粒子物理コンピューティングサマースクール, 茨城県つくば市, 2023年7月31日～8月4日
2. Hiroaki Ono. Operations and Data Production Shifts. Belle II Computing pre-B2GM, オンライン, 2023年9月7日～13日
3. 深澤 永里香, 宮田 等, 宮田 恵理, 早坂 圭司, 勝亦 正明, 小野 裕明, 渡辺みのり (7th 13 in total). 有機半導体と高密度無機物質を用いた新型放射線検出器の研究. 第84回応用物理学会 秋季学術大会, 熊本県熊本市, 2023年9月19日～23日
4. Hiroaki Ono. Distributed Computing Operations. 46th B2GM, 茨城県つくば市, 2023年10月23日～27日
5. 張 同書, 宮田 恵理, 深澤 永里香, 宮田 等, 早坂 圭司, 勝亦 正明, 小野 裕明, 渡辺みのり (7, 8th 14 in total). 画像処理を用いた有機半導体放射線検出器の開発. 第71回 応用物理学会 春季学術大会, 東京都世田谷区, 2024年3月22日～25日
6. 小野裕明. Software. ILD-Japan 全体会議, 東京都中央区, 2024年3月26日

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