Report of the RCNP Collaboration Research Network (RCNP-COREnet)

COREnet010 PI: KATO Yuji

1	Title of research		Elucidation of heavy hadrons in B-factory by collaboration of experimentalists and theorists
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3	Period of research		2019 July - 2021 March
4	Main location of collaboration implementation		Nagoya University and virtual meeting room (zoom)
5	Publication list (Please include DOI if available)	Articles	T. J. Moon, K. Tanida, Y. Kato, First Determination of the Spin and Parity of a Charmed-Strange Baryon, Ξc(2970)+, submitted to Physical Review D (arXiv:2007.14700)
			J. Y. Lee, K. Tanida, Y. Kato, and et. al., Measurement of branching fractions of Λ+ c → nΛπ +, nΣ0π +, Λ(1670)π +, and nΣ(1385) +, Physical Review D 103.052005 2021, https://doi.org/10.1103/PhysRevD.103.052005
			Yonghee Kim, Emiko Hiyama, Makoto Oka, Kei Suzuki, Spectrum of singly heavy baryons from a chiral effective theory of diquarks, Physical Review D 102 2020 014004-1-9, 10.1103/PhysRevD.102.014004
			Pc pentaquarks with chiral tensor and quark dynamics, Yasuhiro Yamaguchi, Hugo Garcia-Tecocoatzi, Alessandro Giachino, Atsushi Hosaka, Elena Santopinto, Sachiko Takeuchi, Makoto Takizawa, Phys. Rev. D 101 (2020) 091502 pp.1-7, https://doi.org/10.1103/PhysRevD.101.091502
			Heavy hadronic molecules with pion exchange and quark core couplings: a guide for practitioners [Authors] Yasuhiro Yamaguchi, Atsushi Hosaka, Sachiko Takeuchi, Makoto Takizawa [Journal] J. Phys. G: Nucl. Part. Physx.47(2020)053001 pp. 1-67 [arXiv:1908.08790 [hep-ph] pp.1-72]. [DOI] https://doi.org/10.1088/1361-6471/ab72b0
			Photoproduction of Dbar0 Lambda_c^+ within the Regge-plus-resonance model [Authors] D. Skoupil, Y. Yamaguchi [Journal] Phys. Rev. D 102, 074009 (2020). [DOI] https://doi.org/10.1103/PhysRevD.102.074009
			A. J. Ari¤fi, H. Nagahiro, A. Hosaka, and K. Tanida, Roper-like resonances with various flavor contents and their two-pion emission decays, Phys. Rev. D 101, 111502(R) (2020).
			A. J. Arifi¥, H. Nagahiro, A. Hosaka, and K. Tanida, Three-body decay of Lambda_c(2765) and determination of its spin-parity, Phys. Rev. D 101, 094023 (2020).
		Talks	Charm hadron spectroscopy at Belle, The 8th Asia-Pacific conference on Few-Body problems in Physics (APFB2020), March 2, 2021
			Prospect of hadron spectroscopy at Belle II, Hadron in Nucleus 2020, March 9, 2020
			「凝スカラーチャーモニウムへの輻射崩壊による新ハドロンの探索」 宮林謙吉（奈良女子大学） 新学術領域研究「量子クラスターで読み解く物質の階層構造」領域研究会での講演 2019年5月31日
			「Belle II実験におけるB0→ηc γ K± π∓の研究」 西川愛（奈良女子大学） Flavor Physics Workshop 2019でのポスター発表 2019年11月20日
			「Belle II実験におけるB0→ηc γ K± π∓の研究」 西川愛（奈良女子大学） Flavor Physics Workshop 2020（オンライン開催）での講演 2020年11月26日
			「Belle II実験におけるB0→ηc γ K± π∓崩壊の探索感度」 西川愛、宮林謙吉（奈良女子大学）他 Belle II colalboration 日本物理学会第76回年次大会（オンライン開催）一般講演 2021年3月15日
			5クオーク状態との結合を伴うハドロン分子としての Pcペンタクォーク状態 (9/15), 山口康宏, 保坂淳, 竹内幸子, 瀧澤誠, 日本物理学会 2020年秋季大会 9/14-17 2020
			Pcペンタクォーク状態におけるパイオン交換力とコンパクト状態への結合 (11/5) [Authors] 山口康宏 [Conference] ELPH 研究会 C029「様々なフレーバー領域で探るクォーク・ハドロン多体系の分光と構造」 11/4-5 2020
			(Invited) Heavy hadronic molecules coupled with multiquark states (3/3) [Authors] Yasuhiro Yamaguchi (JAEA) [Conference] Yamada Conference LXXII: The 8th Asia-Pacific Conference on Few-Body Problems in Physics (APFB2020), Kanazawa, Japan 1-5 March 2021
			(Invited) Heavy hadronic molecules with pion exchange and coupling to multiquarks (3/9) [Authors] Yasuhiro Yamaguchi (JAEA) [Conference] Hadron in Nucleus 2020 (HIN20), Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan 8-10 March 2021
			K. Tanida: Charm baryons at Belle and Belle II, invited talk at Workshop on Physics of heavy-quark and exotic hadrons 2021 (online, Feb. 15-17, 2021)
			K. Tanida for Belle II collaboration: Belle II: Charmonium, Lambda_c, and X(3872) Family, Invited talk at 19th International Conference on B-Physics at Frontier Machines (Beauty2020) (Online, Sep. 21-24, 2020).
			K. Tanida for the Belle collaboration: Λc →Ληπ+崩壊による分岐比と Λ(1670) の測定, (2020年9月14-17日日本物理学会 2020年秋季大会)
			谷田聖他(Belle collaboration):Λ c(2765) の量子数の決定 (2019年9月17-20日 日本物理学会 2019年秋季大会@山形大学)
			X(3872) in the hybrid model of charmonium and hadronic molecule (4/12), Yasuhiro Yamaguchi, Sachiko Takeuchi, Makoto Takizawa, Atsushi Hosaka, Experimental and theoretical status of and perspectives for XYZ states, Germany 12-15 Apr. 2021
			Makoto Oka, Diquark effectove theory for heavy baryons, KEK J-PARC Branch Workshop on Physics of Heavy Quark Hadron, 2020/1/28, KEK東海分室
		Theses	「Belle II実験におけるB0→ηc γ K± π∓崩壊の探索」西川愛, 奈良女子大学大学院人間文化総合科学研究科博士前期課程数物科学専攻 2020年度修士論文
6	Description of the results and outputs		https://drive.google.com/open?id=1NbYvvZV_RH9rIi6cWus8CSCRQS94R1aB&authuser=sakiyama%40rcnp.osaka-u.ac.jp&usp=drive_fs