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

COREnet031 PI: FUKUKYAMA Takeshi

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1	Title of research		Hunting for T-violation and Majorana Character of Neutrinos in Muon Decays
	List of Participants (Name and affiliation)		Koichiro Shimomura, Professor at KEK, ksimomu@post.kek.jp
			Junji Tojo, Associate Professor at Kyushu University, tojo@phys.kyushu-u.ac.jp
2			Sohtarou Kanda, Assistant Professor at KEK, kanda@post.kek.jp.
			Dausuke Nomura, Lecturer at International University of Health and Welfare, dnomura@post.kek.jp
			Takeshi Fukuyama (contact person), Research Collaborator at RCNP, Osaka University,
3	Period of research		Two years from April 2020 to March 2022.
4	Main location of collaboration implementation		J-PARC
	Publication list (Please include DOI if available)	Articles	(i) ¥ mu-¥ tau symmetry breaking and CP violation in the neutrino mass matrix Takeshi Fukuyama(Osaka U., Res. Ctr. Nucl. Phys.), Yukihiro Mimura(Ritsumeikan U., Kusatsu) (Jan 30, 2020) Published in: Phys.Rev.D 102 (2020) e-Print: 2001.11185 [hep-ph]
			(ii) The Relativistic Corrections of GPS Takeshi Fukuyama(Osaka U., Res. Ctr. Nucl. Phys.), Sueo Sugimoto(Ritsumeikan U., Kusatsu) (Jul 11, 2020) e-Print: 2007.04582 [hep-ph]
5		Talks	NEWS1907 (July 18, 2019) Speaker: Prof. Takeshi Fukuyama (RCNP) Title: Searching for New Physics beyond the Standard Model in Electric Dipole Moment
			NEWS1912-2 (December 19, 2019) Speaker: Prof. Takeshi Fukuyama (RCNP) Title: Hunting for T-violation and Majoranality of Neutrinos in Muon Decays
		Theses	
6	Description of the results and outputs		In publication (i): We have discussed the origin of the ¥mu-¥tau symmetry found by us. In publication (ii): We have calculated the special and general relativistic effects of the Global Positioning System (GPS), especially the effects depending on the small deviation of the orbit from the circular one.
			In the talk of NEWS1912-2 (December 19, 2019), we have explained the outline of our project of this budget. We will apply for this project to the Kakenhi for the coming academic year.