

Участие ОИЯИ в программе физических исследований на установке BESIII

Отчет и предложение по продлению

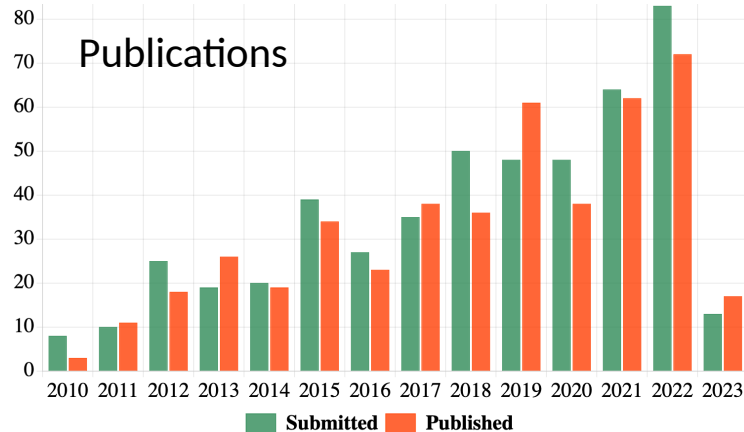
Денисенко Игорь Игоревич

НТС ЛЯП
30.03.2023

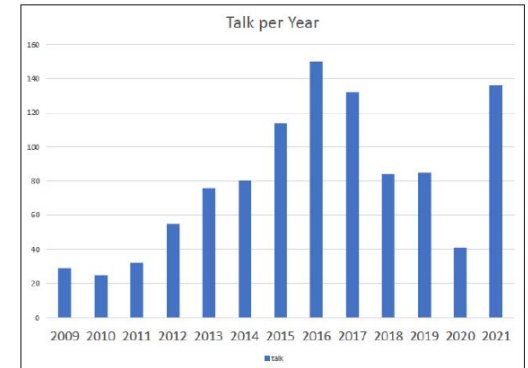
The BESIII Collaboration



The collaboration consists of more than 500 members from 17 countries.



Talks



JINR group at BESIII

№ № n/a	Category of employees	NAME	Division	Position	Amount of FTE
1.	scientific staff	Bakina O.	DLNP	researcher	1
		Boyko I.	DLNP	researcher	0.3
		Shelkov G.	DLNP	researcher	0.1
		Dedovich D.	DLNP	researcher	0.3
		Denisenko I.	DLNP	researcher	0.5
		Guskov A.	DLNP	researcher	0.1
		Nefedov Y.	DLNP	researcher	1
		Egorov P.	DLNP	trainee	1
		Pogodin S.	DLNP	trainee	1
		Zhemchugov A.	DLNP	researcher	0.5
		Bytyev V.	BLTP	researcher	0.5
		Korenkov V.	LIT	researcher	0.1
		Ososkov G.	LIT	researcher	0.2
		Pelevanyuk I.	LIT	researcher	0.2
2.	engineers				
3.	professionals				
4.	workers				
	Total:				7.8

Conference talks

- I. Denisenko, “Light hadron spectroscopy at BESIII”, 19-th Lomonosov Conference on Elementary Particle Physics, Moscow, 22 - 28, August 2019.
- Ю. Нефедов, “Обзор эксперимента BESIII”, сессия-конференция СЯФ ОФН РАН, Новосибирск, март 2020.
- I. Denisenko, “Partial wave analysis of $J/\psi \rightarrow K^+K^-\pi^0$ ”, 9th International Conference on New Frontiers in Physics (ICNFP 2020), Crete, 4-12 October 2020.
- I. Denisenko, “Partial wave analysis of $J/\psi \rightarrow K^+K^-\pi^0$ ”, 5-th International Conference on Particle Physics and Astrophysics (ICPPA 2020), Moscow, 5-9 October 2020.
- I. Denisenko, “Partial wave analysis of $J/\psi \rightarrow K^+K^-\pi^0$ ”, XXIV International Scientific Conference of Young Scientists and Specialists (AYSS-2020), 9-13 November 2020.
- O. Bakina, poster “Proposal for the prompt inclusive J/ψ production measurement at future Super c-tau factories”, Workshop on future Super c-tau factories, 15-17 November 2021.
- O. Bakina, poster "Studies of charmonium decay from BESIII", 30th International Symposium on Lepton Photon Interactions at High Energies, 10-14 January 2022.

- Partial wave analysis of $J/\psi \rightarrow K^+K^-\pi^0$, PRD 100, 032004 (2019)
- Scalar isoscalar mesons and the scalar glueball from radiative J/ψ decays, PLB 816,136227 (2021)
- Search for the tensor glueball, PLB 830 (2022) 137171

- S. Pogodin, “Search for proton-antiproton bound state in the reaction $e^+e^- \rightarrow 2p2\bar{p}$ in the BESIII experiment”, BSc thesis, Dubna, 2020.
- S. Pogodin, “Branching fraction of $J/\psi \rightarrow \varphi\eta$ ($\eta \rightarrow \gamma\gamma$, $\eta \rightarrow \pi^+\pi^-\pi^0$) at the BESIII experiment”, MSc thesis, Dubna, 2022.
- P. Egorov, “Measurement of the cross-section of $e^+e^- \rightarrow \eta\pi^+\pi^-$ in energy range 2.00 – 3.08 GeV”, MSc thesis, Dubna, 2022.
- I. Denisenko, “Light hadron spectroscopy and search for exotic states in the $J/\psi \rightarrow K^+K^-\pi^0$ decay and radiative J/ψ decays to two pseudoscalars”, PhD thesis, 2021.

Requirements for computing resources

Computing resources	Distribution by year				
	1 st year	2 nd year	3 rd year	4 th year	5 th year
Data storage (TB)					
- EOS	-	-	-	-	-
- Ribbons	-	-	-	-	-
Tier 1 (core-hour)	-	-	-	-	-
Tier 2 (core-hour)	120000	120000	120000	120000	120000
SC Talker (core-hour)					
- CPU	-	-	-	-	-
- GPU	-	-	-	-	-
Clouds (CPU cores)	60000	60000	60000	60000	60000

Заявка на финансирование 2024-2028

Names of costs, resources, sources of funding	Cost (thousands of dollars) resource requirements	Cost, distribution by year				
		1 st year	2 nd year	3 rd year	4 th year	5 th year
International cooperation (IC)	125	25	25	25	25	25
Materials						
Equipment and third-party services (commissioning)	50	10	10	10	10	10

Основные затраты – на командировочные расходы в КНР:

- 1) участие в сменах и обязательных технических работах
- 2) анализ данных, обсуждение и интерпретация результатов, подготовка публикаций
- 3) представление результатов на международных конференциях
- 4) аппаратное обеспечение для машинного обучения

Спасибо!