

## MultiPurpose Detector (MPD)

## MPD

02-0-1065-2007/2023

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V.M.Golovatyuk, V.D.Kekelidze

NAME OF PROJECT DEPUTY LEADERS.

V.Kolesnikov

DATE OF SUBMISSION OF PROPOSAL OF PROJECT TO SOD \_\_\_\_\_

DATE OF THE LABORATORY STC \_\_\_\_\_ DOCUMENT NUMBER \_\_\_\_\_

STARTING DATE OF PROJECT \_\_\_\_\_

(FOR EXTENSION OF PROJECT — DATE OF ITS FIRST APPROVAL) \_\_\_\_\_

PROJECT ENDORSEMENT LIST

MultiPurpose Detector (MPD)

MPD

02-0-1065-2007/2023

V.M.Golovatyuk, V.D.Kekelidze

APPROVED BY JINR DIRECTOR	SIGNATURE	DATE
ENDORSED BY		
JINR VICE-DIRECTOR	SIGNATURE	DATE
CHIEF SCIENTIFIC SECRETARY	SIGNATURE	DATE
CHIEF ENGINEER	SIGNATURE	DATE
HEAD OF SCIENCE ORGANIZATION DEPARTMENT	SIGNATURE	DATE
LABORATORY DIRECTOR	SIGNATURE	DATE
LABORATORY CHIEF ENGINEER	SIGNATURE	DATE
PROJECT LEADER	SIGNATURE	DATE
PROJECT DEPUTY LEADERS	SIGNATURE	DATE
ENDORSED		
RESPECTIVE PAC	SIGNATURE	DATE

**Schedule proposal and resources required for the implementation of the Project  
MultiPurpose Detector (MPD)**

Expenditures, resources, financing sources		Costs (k\$) Resource requirements	Proposals of the Laboratory on the distribution of finances and resources (k\$)					
			1 y. (2021)	2 y. (2022)	3 y. (2023)	4 y. (2024)	5 y. (2025)	
Expenditures	Time Projection Chamber (TPC)	4607	2635	902	670	200	200	
	Time of Flight System (TOF)	2190	650	800	500	140	100	
	Electromagnetic Calorimeter (ECal)	3600	1520	550	1210	220	100	
	Forward Calorimeter (FHCAL)	114	41	40	13	10	10	
	Fast Forward Detector (FFD)	82	34	18	10	10	10	
	Data Acquisition System (DAQ)	2904	1083	473	528	420	400	
	Engineering Systems	1742	297	852	93	300	200	
	Inner Detector (ITS)	5365	1065	505	295	1500	2000	
	2 <sup>d</sup> Stage Detectors	8172	0	0	172	3000	5000	
	Total:	28776	7325	4140	3491	5800	8020	
Required resources	Standard hour	– Laboratory design bureau;	40000	10000	10000	10000	5000	5000
		– Laboratory experimental facilities division;	0	0	0	0	0	0
		– JINR Experimental Workshop;	0	0	0	0	0	0
		Nuclotron		100	100	100	100	100
		– Collider NICA;	10250	0	250	2500	3500	4000
		– computer. (proc*hours), x10 <sup>6</sup> .	165,6	10,8	18	28,8	50,4	57,6
		Operating costs.						
Financing sources	Budgetary resources	Budget expenditures including foreign-currency resources. (k\$)	26509	5453	3745	3491	5800	8020
		Contributions by collaborators						
	External resources	Grants.(k\$)	250	50	50	50	50	50
		Agreement JINR RF from 2016 (k\$)	2267	1872	395	0	0	0
		Other financial resources, etc.						

PROJECT LEADER

V.Golovatyuk

**Estimated expenditures for the Project: MultiPurpose Detector (MPD)**

	Expenditure items	Full cost	1st year (2021)	2d year (2022)	3d year (2023)	4th year (2024)	5th year (2025)
	Direct expenses for the Project						
1	Nuclotron, Collider, hours	10250	0	250	2500	3500	4000
2	Computing (processor* hour), mln.	165,6	10,8	18,0	28,8	50,4	57,6
3	Computing communication						
4	Technical Design, hours	40000	10000	10000	10000	5000	5000
	Experimental Workshop, hours						
6	Materials k\$	19500	4850	2650	2300	3500	6200
7	Equipment k\$	6625	1725	940	640	1900	1420
8	Payment for research carried out under contracts k\$	2650	750	550	550	400	400
9	Travel allowance, including: k\$	950	200	180	180	190	200
	<b>В т.ч.</b>						
	a) non-rouble zone countries	600	140	140	130	120	110
	б) rouble zone countries	150	30	40	30	25	25
	в) protocol-based	150	30	40	30	25	25
	Total direct expenses	29725	7525	4320	3670	5990	8220

PROJECT LEAD.

V.M.Golovatyuk

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V.D.Kekelidze

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