

吉林大学物理学院
COLLEGE OF PHYSICS JILIN UNIVERSITY

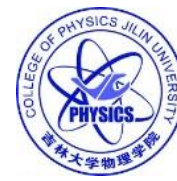
Status Report of Jilin University

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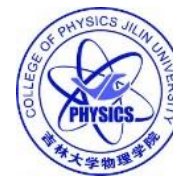
Status of mass chain evaluation



Members of Jilin university (JLU) data centre include: Yang Dong, and a student Chen Duo (graduate in two months). Jilin university Data Center is responsible for the mass chains: $A=52, 53, 54, 55, 56,$ and 67 .

A	Status
52	Yang Dong, Huo Junde, NDS, 128, 185 (2015)
53	Huo Junde, NDS, 110, 2689 (2009)
54	Yang Dong, Huo Junde, NDS, 121, 1 (2014)
55	Huo Junde, NDS, 109, 787-942 (2008) (all references collected)
56	Huo Junde, Huo Su, Yang Dong, NDS, 112, 1513 (2011)
67	Chen Duo, Yang Dong (to be submitted)

Other nuclear data researches



Machine learning program to analysis the systematic error contribution of $T_{1/2}$ measurement

Input	Nuclei	Value	Error	Time	Method	Detector	Stability	Period	Background	Dead time
	^{66}Ga	9.5	0.1	1959	$\gamma(t)$	NaI	None	7	None	None
		9.33	0.08	1964	$\beta(t)$	None	None	None	None	None

Nucleus

Algorithm

Notice

核数据误差模型

误差模型回归学习

核素: 76As

算法: CNN算法

训练 测试

误差结果输出

误差结果

系统误差	统计误差
0.11559	0.014502
0.20274	0.085305
0.1528	0.45205
0.14676	0.19183

系统误差协方差矩阵

0.000003	0.000008	0.0001
0.000008	0.000029	-0.00062
		0.000173

核素数据

特征	方差
方法	0.1261
探测器	0.06302
稳定性监测	0.17919
时长	0.07947
本底	0.17922
死时间	0.18918
分离	0.15926
杂质	0.15934

信息显示

误差结果计算完成
注意: 请首先点击“测试”按钮对进行测试, 然后点击“误差结果输出”按钮输出结果, 结果在右侧显示并保存到excel表格中。

Systematic Error contributions

特征	方差
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Other nuclear data researches

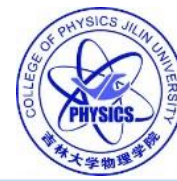


Articles

- 1. Xiaolong Huang*, **Dong Yang***, Zhigang Ge, et al, The nuclear decay database in fission product mass region, Chinese Physics C (2024), DOI: 10.1088/1674-1137/ad3b9d;
- 2. Huanyi Ye, Jian Li*, **Dong Yang***, Low-lying state investigations of odd-A Mn isotopes around N=28, Commun. Theor. Phys. 75 (2023) 025302;
- 3. Xuan Pang, Bao-Hua Sun, ...**Dong Yang***, et al, Progress of photonuclear cross sections for medical radioisotope production at the SLEGS energy domain, Nuclear Science and Techniques (2023) 34:187;
- 4. Prediction of ground state spin of odd A nuclei based on decision tree method, Huifeng Wen, Tianshuai Shang, ...**Dong Yang***, Acta Phys. Sin. Vol. 72, No. 15 (2023), 152101

Problem and Plan

- No fund for mass chain evaluation since 2018;
- Need to apply to China National Nuclear Corporation (CNNC) for a special fund to support focusing on the mass chain evaluation work.



Thank you

