The Joint Institute for Nuclear Astrophysics

JINA Nuclear Reaction Rate Library and Database

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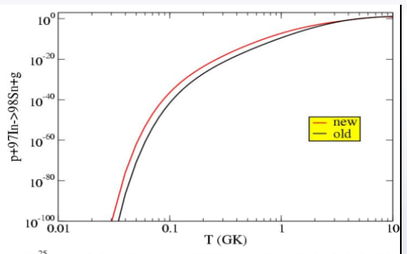
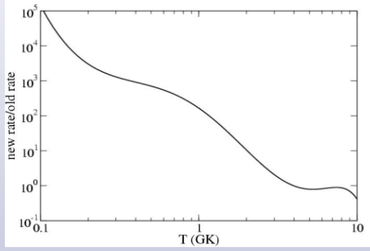
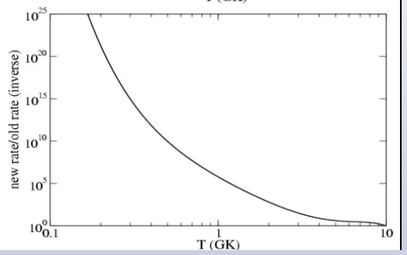
$p + {}^{97}In \rightarrow {}^{98}Sn + \gamma$

Old Q= 1.651 MeV, New Q= 0.946 MeV

Hauser-Feshbach statistical calculations (T. Rauscher's NONSMOKER code)



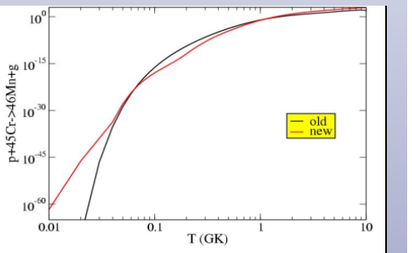


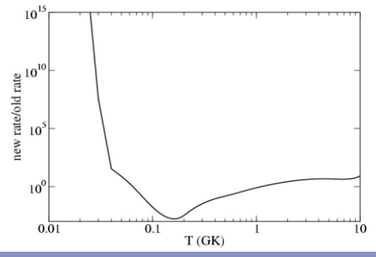


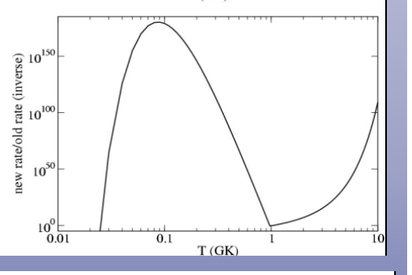
$p + {}^{45}Cr \rightarrow {}^{46}Mn + \gamma$

Old Q=247 KeV, New Q=836 KeV

J. Fisker shell-model calculations







$p + {}^{65}As \rightarrow {}^{66}Se + \gamma$

L. Van Wormer, …Reaction rates and reaction sequences for *rp*- process, Astrophys. J. **432**, 326 (1994)

Old Q=1.909 MeV,

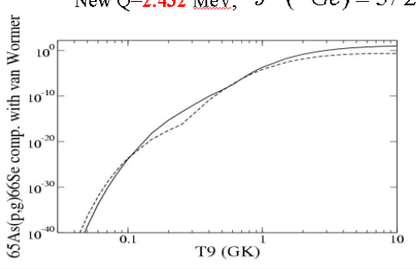
E (keV)	J^{π}
2170	4^+
2500	3^+
2800	3^-

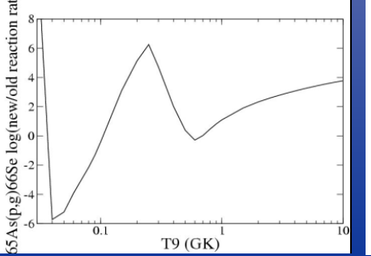
ENSDF - 17 levels

Stefanova, … - 27 levels

PRC 67, 054319

New Q=2.432 MeV, $J^{\pi}({}^{65}Ge) = 3/2^-$,





Data Users (modelers, experimentalists)

- retrieve version tracked groups of data
- read comments, make choices
- reference data in their work (Onl. Jour. Nucl. Astr. Dat 002334-05)

JINA Web-Database

Updated continuously

Data (refereed)	Comments/Data (not refereed, open)

Editorial Board

- Identifies evaluation needs
- Requests/collects evaluations from referees
- Reviews evaluations before they enter database
- Edits comments section if necessary

Scientific Community

- Comment on data in database
- Contribute new data
- lookup data used in published work (identified through libraries)

Referee Pool

- volunteers
- open to everybody
- flexible workload distribution
- get publication credit

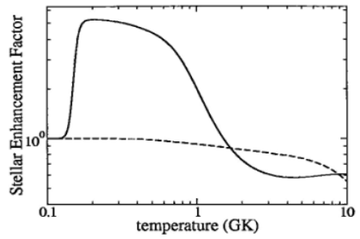
Individuals | Evaluating groups

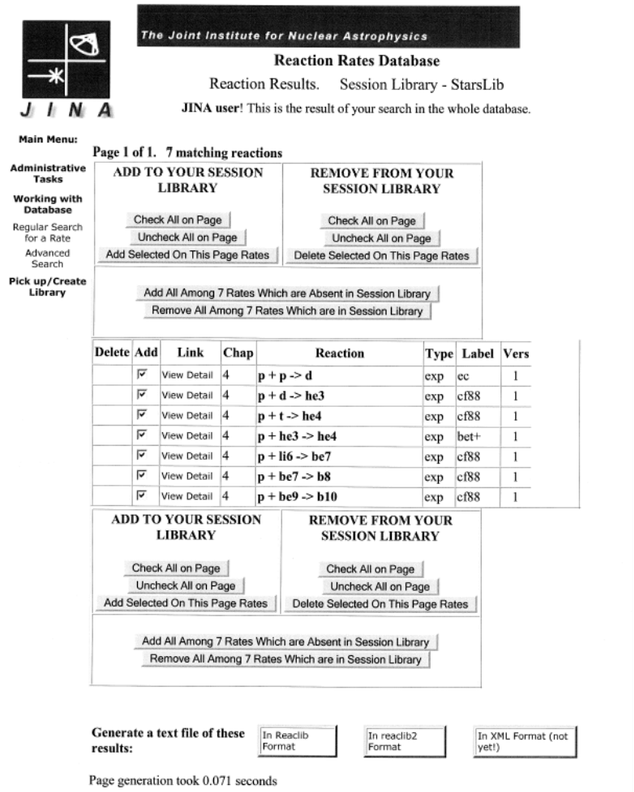
Manual for data evaluation

List of Updates: - 1973 *p*- & *α*- capture reactions, 972 *(p,α)* reactions calculated by T. Rauscher (NONSMOKER code)

- 25 *p*-capture reactions calculated by J.Fisker in *pf*- shell model
- 40 *p*-capture & 4 *(p,α)* reactions from C.Illadis, … Astrophys. J. Suppl. **134**, 151 (2001)
- 55 reactions from NACRE compilation - C.Angulo, … Nucl. Phys. **A656**, 3 (1999)
- A few reactions from experimental sources
- 3 *p*-capture reactions on $^{65}As, {}^{69}Br, {}^{73}Rb$
- SEF's for all reactions

H.Schatz, … (to be published) in Astrophys.J.





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Reaction Rates Database

Reaction Results. Session Library - StarsLib

JINA user! This is the result of your search in the whole database.

Main Menu: Administrative Tasks | Working with Database | Regular Search for a Rate | Advanced Search | Pick up/Create Library

Page 1 of 1. 7 matching reactions

ADD TO YOUR SESSION LIBRARY: Check All on Page | Uncheck All on Page | Add Selected On This Page Rates

REMOVE FROM YOUR SESSION LIBRARY: Check All on Page | Uncheck All on Page | Delete Selected On This Page Rates

Add All Among 7 Rates Which are Absent in Session Library

Remove All Among 7 Rates Which are in Session Library

Delete	Add	Link	Chap	Reaction	Type	Label	Vers
	☑	View Detail	4	p + p -> d	exp	ec	1
	☑	View Detail	4	p + d -> he3	exp	cf88	1
	☑	View Detail	4	p + t -> he4	exp	cf88	1
	☑	View Detail	4	p + he3 -> he4	exp	bet+	1
	☑	View Detail	4	p + li6 -> be7	exp	cf88	1
	☑	View Detail	4	p + be7 -> b8	exp	cf88	1
	☑	View Detail	4	p + be9 -> b10	exp	cf88	1

ADD TO YOUR SESSION LIBRARY: Check All on Page | Uncheck All on Page | Add Selected On This Page Rates

REMOVE FROM YOUR SESSION LIBRARY: Check All on Page | Uncheck All on Page | Delete Selected On This Page Rates

Add All Among 7 Rates Which are Absent in Session Library

Remove All Among 7 Rates Which are in Session Library

Generate a text file of these results: In Reaclib Format | In reaclib2 Format | In XML Format (not yet!)

Page generation took 0.071 seconds

JINA Reaction Rate Database

GOALS:

- "Living" continually updated web-based public Archive
- contains both unpublished data and data from refereed literature
- each rate has to be finally "evaluated" by a Board of Referees
- each rate has a discussion thread
- database allows to output arbitrary set of rates (library) in all used by astrophysical community formats
- each rate can be approximated analytically or given as a table
- database contains SEF's, spins and links to the source for each rate

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