

**E288 (MULTI) T. Murakami**  
**Study of Multi-Fragmentation Processes in pA, dA and  $\alpha$ A Reactions**

**E337 (MULTI) T. Murakami**  
**Angular Correlation of Fragments from Target Nuclei**

**E393 (MULTI) T. Murakami**  
**Energy Dependence of Target Multi-Fragmentation in pA and dA Reactions**

**E288**

Submitted	(1992.11.4)
Approved	1992.12.2
Beam line	P1
Shift requested	83+ $\alpha$ 28
Shift executed	28
Executed cycles	93[7,10]

**E337**

Submitted	1994.6.20
Approved	1994.7.15
Beam line	P1
Shift requested	76
Shift executed	41
Executed cycles	(95[10]), 95[12], 96[1,2-2]

**E393**

Submitted	1996.6.27
Approved	1997.3.18
Beam line	EP1B
Shift requested	72
Shift executed	26
Executed cycles	97[3-1,3-2]

**Papers and activities**

[Legend]

- Physics papers published in refereed journal
- Technical papers
- ★ PhD theses
- ◇ Conference and Symposium
- \* Internal Report and others

- K.H. Tanaka et al.  
 Energy Spectra and Angular Distribution of Intermediate Mass Fragments Emitted in Au/Ag(p,X) reactions with  $E_p=12$  GeV  
 Nucl. Phys. A 583 (1995) 581c.
- J. Murata et al.  
 Fragment Emission Source Geometry and Temperature in 12-GeV and 8-GeV Proton Induced Multifragmentation

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- Physics papers published in refereed journal.
  - Technical papers.
  - ★ PhD theses.
  - ◇ Conference and Symposium.
  - \* Internal Report and others.

- Proc. of INPC98, Paris, France, August 1998  
Nucl. Phys. A 654 (1999) 807c.
- H. Ochiishi et al.  
Application of Bragg-Curve Counters to a Target Multifragmentation Measurement  
Nucl. Instr. Meth A 369 (1996) 269.
  - Y. Tanaka et al.  
Data-acquisition system for a target multifragmentation experiment with large solid angle detectors  
Nucl. Instr. Meth. A 425 (1999) 323.
  - ★ J. Murata et al.  
Nuclear Calorimetry on GeV Proton Induced Target Multifragmentation Reactions  
Kyoto University, 2000
  - ◇ K.H. Tanaka et al.  
Angular Distribution of Intermediate Mass Fragments Emitted in the Reactions Au/Ag(p,X) at 12 GeV  
Proc. of 7th Int'l Conf. in Nuclear Reaction Mechanisms, Varenna, Italy, June 6-11, 1994, Università Degli Studi di Milano, Supplemento N.100, p643.
  - ◇ T. Murakami et al.  
Target Fragmentation by GeV Energy Proton  
Proc. of the 2nd Japan-Italy Joint Symposium on Heavy Ion physics, RIKEN, Japan, May, 1995, "Prespectives in Heavy Ion Physics" (World Scientific, Singapore, 1996) p152.
  - ◇ T. Murakami et al.  
Multifragmentation Experiment at KEK 12 GeV Proton Synchrotron  
Invited talk at the "Hot and Expanding Nuclear Matter Symposium" the 210th ACS National Meeting at Chicago, August 1995
  - ◇ K.H. Tanaka et al.  
Response of Nuclear Matter against 12 GeV Protons (The first results of the KEK-PS E337 Experiment)  
Proc. of 8th Int'l Conf. on Nuclear Reaction Mechanisms, Varenna, Italy, June9-14, 1997
  - ◇ J. Murata et al.  
Temperature Distribution in Light Projectile Induced Reactions *ibid.*, p216.  
Proc. of 8th Int'l Conf. on Nuclear Reaction Mechanisms, Varenna, Italy, June9-14, 1997, Università Degli Studi di Milano, Supplemento N.111, p216.
  - ◇ T. Murakami et al.  
Temperature Distributions in 12-GeV and 8-GeV Proton Induced Multifragmentations *ibid.*, p221.  
Proc. of 8th Int'l Conf. on Nuclear Reaction Mechanisms, Varenna, Italy, June9-14, 1997, Università Degli Studi di Milano, Supplemento N.111, p221.
  - ◇ T. Murakami et al.  
Thermal Property of IMF Source Produced by 12 GeV Protons  
Invited talk at the "probing Nuclear Matter at Extreme Conditions" the 214th ACS National Meeting at Las Vegas, September 1997
  - ◇ K.H. Tanaka et al.  
Energy Spectra and Angular Distributions of IMFs Produced in 8 GeV Proton and 12 GeV Proton and <sup>20</sup>Ne Induced Multifragmentation Reactions  
Proc. of 9th Int'l Conf.on Nuclear Reaction Mechanisms, Varenna, Italy, June 2000, Università Degli Studi di Milano, Supplemento N.115, p.323.
  - ◇ T. Murakami et al.  
Temperature Distributions in 12-GeV and 8-GeV Proton Induced Multifragmentations  
Proc. of 9th Int'l Conf.on Nuclear Reaction Mechanisms, Varenna, Italy, June 2000, Università Degli Studi di Milano, Supplemento N.115, p.315.
  - ◇ T. Murakami et al.  
Comparative Study of Target Multifragmentation Induced by 12-GeV Proton and 12 GeV <sup>20</sup>Ne  
7th Int'l Conf. on Nucleus Nucleus Collisions (NN2000), Strasbourg, France, July 2000.

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● Physics papers published in refereed journal.

○ Technical papers.

★ PhD theses.

◇ Conference and Symposium.

\* Internal Report and others.

- ◇ T. Murakami et al.  
Fragment Formation in GeV-Energy Proton and Light Heavy-Ion Induced Reactions  
Proc. of Int'l Symp. on Clustering Aspects of Quantum Many-Body Systems, Kyoto, Japan,  
November 2001  
"Clustering Aspects of Quantum Many-Body Systems" (World Scientific, Singapore, 2002) p.177.
- ◇ T. Murakami et al.  
Target Fragmentation Induced by GeV-Energy Light Projectiles  
2002 Nuclear Chemistry GORDON CONFERENCE, New London, USA, June 2002.
- ◇ T. Murakami et al.  
Multifragmentation Induced by Light Heavy-Ions with GeV energy  
Proc. of 10th Int'l Conf. on Nuclear Reaction Mechanisms, Varenna, Italy, June 2003  
Università Degli Studi di Milano, Supplemento N.122, p.541.
- ◇ T. Murakami et al.  
Total Energy Dependence of Angular Distributions of IMFs Produced in Heavy-Ion Induced Target  
Multi fragmentation Reactions at around 10 GeV  
NN2003, Moscow, Russia, June 2003 (Nucl. Phys. A in press).
- ◇ T. Murakami et al.  
Total Energy Dependence of Angular Distributions of IMFs Produced in Proton and Heavy-Ion  
Induced Target Multifragmentation  
Proceedings of the Eighth International Conference on Nucleus-Nucleus Collisions (NN2003),  
Nuclear Physics, A734 supplement 1, E96-E99, 2004.

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