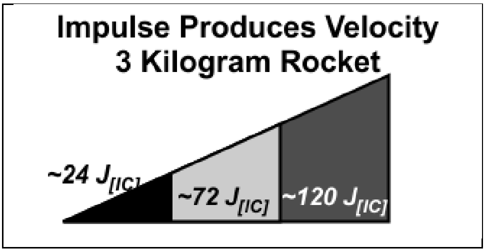


How Rockets Generate Multi-Parabolic Joules

Professor Du-Ane Du

www.Wacky1301SCI.com, *"Looking at serious science, sideways!"*

Three sisters, Pico, Hectii, and Tera, the "Space-sci Sherlocks," are traveling through the Asteroid Belt. They analyze some rocket experiments and deduce new things about the parabolic nature of energy.
—Excerpted from *Murdered Energy Mysteries*, Part 1, Chapter 10, by Du-Ane Du, (Amazon, Kindle, ebook 2018, paperback 2021).

"Find us a good riddle, Chip," Tera said, as she tapped the *Secrets of Murdered Energia… Greatest Conundrum* icon displayed on her phone.

“During your rocket experiments, how much chemical/kinetic-energy did one packet of fuel allegedly store?” Chip wrote on the screen.

“What’s kinetic energy?” Tera said.

Hectii shrugged playfully. “Never heard of it. I guess we’re not very good Space-sci Sherlocks.”

“The traditional physics definition tells us,” Chip wrote, “**kinetic energy** is the energy of motion, and it’s one of the multi-parabolic behaviors that people associate with the term *energia*, energy, or speedy impulse. Anything that moves allegedly has kinetic energy. All forms of energy are measured in a unit called a joule. 1.0 joule = 1.0 $\frac{kgm^2}{s^2}$, and the traditional equation for kinetic energy is:”

$$KE_{[IC]} = \tfrac{1}{2}mv^2$$

$$Kinetic\ Energy_{[IC]} \cong \frac{1}{2}(mass)(velocity)^2$$

was written on the display.

"Which means it's a lot like momentum," Tera concluded.

"The equation certainly looks similar," Hectii said. "The equation for the momentum of an object is $\rho = mv$, very similar!"

"Chip," Tera said. "Is there a traditional equation for how much the kinetic energy allegedly increased when an object, like a rocket, changes speed?"

"Yes," Chip wrote. "The traditional kinetic energy equations work just like the momentum equations you used in the rocket experiments. Once again, the Greek symbol delta (Δ) is used to indicate change or increase. The traditional equation for a change in kinetic energy is:"

$KE = ½(mass)(velocity)^2$

$Change\ in\ KE = KE_{final} – KE_{initial}$

$\Delta KE = ½mv_{final}^2 – ½mv_{initial}^2$

appeared on the display.

"Good news, Pico," Hectii said loudly, so she could be heard over the show Pico was watching. "This one is a riddle, not an experiment. We'll save some of the riddle for you to do later."

"Good," Pico shouted back. "Because this episode is new, and I don't want to miss it. Hectii, do you want to watch this? Bring some munchies when you come."

"Chip, why do you keep using the term *traditional equations*?" Hectii said. "Have the equations changed recently?"

"Only slightly," Chip wrote. "The equation for momentum produces linear values. Many people find it easy to understand linear values, but they have difficulty grasping the complexities of multi-parabolic and multi-linear numbering systems."

"The energy equation isn't linear?" Hectii said.

"Definitely not," Chip wrote. "Most of the energy equations produce multi-parabolic kinetic-joules$_{[IC]}$, some produce multi-linear work-joules$_{[IC]}$, and others produce standard linearized H&E-joules$_{[1.2]}$.

"Fortunately," Chip continued, "all energy units can be expressed as if they are multi-linear work-joules$_{[IC]}$. Therefore, the Educational Reform Act of 2081 states, all joules must either be preceded by an **equal-likely** symbol (~) or they can be followed by a indicating the impulse coefficient [IC]. This gives the…"

"So the [IC] serves as a base of comparison," Hectii interrupted, "like the base of a logarithm?"

"Sort of," Chip said.

"Chip, pull up the mass and velocity data from the toy rocket experiments we did the other day," Tera requested.

"You know, the experiments where we determined that rocket fuel always contains a specific amount of impulse per gram."

"That was a good experiment," Hectii said approvingly.

"And this energy puzzle is very similar," Tera said. "So if we analyze that data, we should be able to answer today's question—and how hard can it be? There's either a mathematical correlation, or there isn't."

"Chip, divide those experiments into three data tables," Hectii said. "Place one data table on each of our phones, so we can each work on our own."

"Good idea," Tera commended. "It'll be interesting to see if we arrive at the same answers."

"I think I'll join Pico in the entertainment room," Hectii said, as she pushed away from a wall and glided toward the cabinet that contained bags of snacks. She selected a bag containing peanuts, chocolate chips, tiny marsh-mellows, and cereal. "Do you want to come?"

"Not right now," Tera said. "I like looking out the side window and watching the asteroids pass between us and the stars."

Hectii pointed out a nearby window. "That asteroid looks like a whale."

"It does," Tera said. "You know, someday I'd like to visit Grandpa Proge on Earth, and see a real, live whale."

“Me too,” Hectii said wishfully, as she glided toward the entertainment room. “But our legs must be a lot stronger if we want to walk on Earth.”

“I hope this fluctuating-gravity therapy makes Pico’s legs stronger.”

“The doctor said all of us need fluctuating-gravity therapy,” Hectii said. “Many kids on Mars use wheelchairs.”

“I know,” Pico shouted. “I heard hundreds of kids are going to the Gravity Spa during this long vacation.”

“Someday the Gravity Spa will orbit Mars,” Tera said.

“Then we won’t have to make this long trip next time,” Hectii said. “For Pico’s sake, I’m glad we’ll be among the first patients.”

“Me too,” Tera agreed, as she stationed herself so she could look out the window. On the other side of the Asteroid Belt, Earth slowly crossed in front of the Sun. “Is my data table ready Chip?”

“Yes,” Chip wrote, and then displayed the following table:

Tera's Kinetic Energy Riddle These experiments always used 1 packet (12 g) of fuel.					**B**
	Mass	$v_{initial}$	v_{final}	$\Delta KE_{[IC]} \cong \frac{1}{2}mv_f^2 - \frac{1}{2}mv_i^2$	$\Delta KE_{[IC]}$
1	$6\ kg$	$0\ \frac{m}{s}$	$2\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(2\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(0\frac{m}{s})^2$	~24 $J_{[IC]}$
2	$3\ kg$	$0\ \frac{m}{s}$	$4\ \frac{m}{s}$		
3	$6\ kg$	$4\ \frac{m}{s}$	$6\ \frac{m}{s}$		
4	$3\ kg$	$6\ \frac{m}{s}$	$10\ \frac{m}{s}$		
5	$1\ kg$	$15\ \frac{m}{s}$	$27\ \frac{m}{s}$		
6	12kg	$-120\ \frac{m}{s}$	$-119\ \frac{m}{s}$		

The next experiments involved 3 packets (36 g) of fuel, so divide the number of joules$_{[IC]}$ by 3 to find the average number of joules$_{[IC]}$ of kinetic energy in 1 packet!!					3 pk fuel made:	1 pk fuel made:
7	$2\ kg$	$0\ \frac{m}{s}$	$18\ \frac{m}{s}$		~ $J_{[IC]}$	~ $J_{[IC]}$
8	$6\ kg$	$0\ \frac{m}{s}$	$6\ \frac{m}{s}$		~ $J_{[IC]}$	~ $J_{[IC]}$
9	$1\ kg$	$30\ \frac{m}{s}$	$66\ \frac{m}{s}$		~ $J_{[IC]}$	~ $J_{[IC]}$
1 packet (12 g) of fuel allegedly produces __________joules$_{[IC]}$ of kinetic energy increase.						

"This data chart isn't too big," Tera decided. "I recognize most of the masses and velocities from the experiments we did last week. This isn't much of a riddle, Chip. All I need to do is put the numbers into the equation for change/increase in the amount of kinetic energy.

"Is it ok if I only do a few lines at a time?" Tera said, as she began keying numbers into her phone.

"Just highlight the lines you want to do," Chip wrote.

Tera highlighted the first three lines, she added numbers to the equations for lines 2 and 3, and then she hit enter:

1	$6\ kg$	$0\ \frac{m}{s}$	$2\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(2\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(0\frac{m}{s})^2$	$\Delta KE_{[IC]} \cong$ ~12 $J_{[IC]}$
2	$3\ kg$	$0\ \frac{m}{s}$	$4\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(4\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(0\frac{m}{s})^2$	
3	$6\ kg$	$4\ \frac{m}{s}$	$6\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(6\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(4\frac{m}{s})^2$	

"How does that look?" Tera said.

"Everything looks correct so far," Chip wrote.

"Then display the answers," Tera said.

"The answers are in the right column, as follows:"

1	$6\ kg$	$0\ \frac{m}{s}$	$2\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(2\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(0\frac{m}{s})^2$	$\Delta KE_{[IC]} \cong$ ~12 $J_{[IC]}$
2	$3\ kg$	$0\ \frac{m}{s}$	$4\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(4\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(0\frac{m}{s})^2$	$\Delta KE_{[IC]} \cong$ ~24 $J_{[IC]}$
3	$6\ kg$	$4\ \frac{m}{s}$	$6\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(6\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(4\frac{m}{s})^2$	$\Delta KE_{[IC]} \cong$ ~60 $J_{[IC]}$

"Seriously? But the values in the right column seem inconsistent," Tera said. "In line one, we launched the 6.0 kg rocket off the launch pad, and one packet of fuel allegedly produced ~12 $joules_{[IC]}$ of kinetic energy. But in line 3 we threw the rocket at an initial velocity of 4.0 m/s before we hit the launch button. And when the rocket-fuel burned, it allegedly produced ~60 $joules_{[IC]}$ of kinetic energy.

"These results for energy allegedly produced are very strange. Let me fill in the equations for the next three lines," Tera said, as her fingers rapidly keyed in the following:

4	$3\ kg$	$6\ \frac{m}{s}$	$10\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(10\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(6\frac{m}{s})^2$	$\Delta KE_{[IC]} \cong$ ~96 $J_{[IC]}$
5	$1\ kg$	$15\ \frac{m}{s}$	$27\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(27\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(15)^2$	
6	$12 kg$	$-120\ \frac{m}{s}$	$-119\ \frac{m}{s}$	$\frac{1}{2}(12)(-120)^2 - \frac{1}{2}(12)(-119)^2$	

"Did I key these numbers in correctly?" Tera said.

"Yes," Chip wrote. "The results for the kinetic energy allegedly produced by one packet of fuel are in the right column:"

4	$3\ kg$	$6\ \frac{m}{s}$	$10\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(10\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(6\frac{m}{s})^2$	$\Delta KE_{[IC]} \cong$ ~96 $J_{[IC]}$
5	$1\ kg$	$15\ \frac{m}{s}$	$27\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(27\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(15)^2$	~252 $J_{[IC]}$
6	$12 kg$	$-120\ \frac{m}{s}$	$-119\ \frac{m}{s}$	$\frac{1}{2}(12)(-120)^2 - \frac{1}{2}(12)(-119)^2$	~1 434 $J_{[IC]}$

"One-thousand four-hundred thirty-four joules$_{[IC]}$?" Tera said incredulously, after reading the bottom of the right column. "That much chemical energy from one 12 g packet of fuel? Chip, this is crazy. I don't see a correlation at all!

"When we did the calculations for the impulse [momentum transfer] produced by one packet of fuel, the answer was always 12 momentums per packet. But look," Tera reproached, tapping at the right column. "When we do the calculations for energy increase per packet of fuel, we find numbers ranging from ~12 joules$_{[IC]}$ per packet, to ~252 J$_{[IC]}$/pk to ~1434 J$_{[IC]}$/pk. Chip, these are radically different answers!"

"Do you wish to complete the worksheet?"

Tera released an irritated sigh. "The next section involves averaging. Maybe averaging over a larger amount of fuel will give us more consistent results."

When she finished keying, her next data set looked like this:

The next experiments involved 3 packets (36 g) of fuel, so divide the total number of joules$_{[IC]}$ by 3 to find the average number of joules$_{[IC]}$ of kinetic energy in 1 packet!!					3 pk fuel made:	1 pk fuel made:
7	$2\ kg$	$0\ \frac{m}{s}$	$18\ \frac{m}{s}$	$\frac{1}{2}(2\ kg)(18\frac{m}{s})^2 - \frac{1}{2}(2\ kg)(0\frac{m}{s})^2$	~ J$_{[IC]}$	~ J$_{[IC]}$
8	$6\ kg$	$0\ \frac{m}{s}$	$6\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(6\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(0\frac{m}{s})^2$	~ J$_{[IC]}$	~ J$_{[IC]}$
9	$1\ kg$	$30\ \frac{m}{s}$	$66\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(66\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(30)^2$	~ J$_{[IC]}$	~ J$_{[IC]}$
1 packet (12 g) of fuel allegedly produces __________ joules$_{[IC]}$ of kinetic energy increase.						

Tera took a hopeful breath. "Are my equations correct?"

"Yes," Chip wrote. "Do you want the answers for the three packets column, or for both columns?"

"Go ahead and display… in fact, I want to see the entire table this time," Tera decided. "The values for the kinetic energy allegedly produced will be in the right column." She paused as she studied the following table:

Tera's Kinetic Energy Riddle These experiments always used 1 packet (12 g) of fuel.					**C**
	Mass	$v_{initial}$	v_{final}	$\Delta KE_{[IC]} = \frac{1}{2}mv_f{}^2 - \frac{1}{2}mv_i{}^2$	$\Delta KE_{[IC]}$
1	$6\ kg$	$0\ \frac{m}{s}$	$2\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(2\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(0\frac{m}{s})^2$	~12 $J_{[IC]}$
2	$3\ kg$	$0\ \frac{m}{s}$	$4\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(4\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(0\frac{m}{s})^2$	~24 $J_{[IC]}$
3	$6\ kg$	$4\ \frac{m}{s}$	$6\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(6\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(4\frac{m}{s})^2$	~60 $J_{[IC]}$
4	$3\ kg$	$6\ \frac{m}{s}$	$10\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(10\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(6\frac{m}{s})^2$	~96 $J_{[IC]}$
5	$1\ kg$	$15\ \frac{m}{s}$	$27\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(27\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(15)^2$	~252 $J_{[IC]}$
6	$12kg$	$-120\ \frac{m}{s}$	$-119\ \frac{m}{s}$	$\frac{1}{2}(12)(-120)^2 - \frac{1}{2}(12)(-119)^2$	~1434 $J_{[IC]}$

The next experiments involved 3 packets (36 g) of fuel, so divide the number of joules$_{[IC]}$ by 3 to find the average number of joules$_{[IC]}$ of kinetic energy in 1 packet!!					3 pk fuel made:	1 pk fuel made:
7	$2\ kg$	$0\ \frac{m}{s}$	$18\ \frac{m}{s}$	$\frac{1}{2}(2\ kg)(18\frac{m}{s})^2 - \frac{1}{2}(2\ kg)(0\frac{m}{s})^2$	~324$J_{[IC]}$	~108$J_{[IC]}$
8	$6\ kg$	$0\ \frac{m}{s}$	$6\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(6\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(0\frac{m}{s})^2$	~108$J_{[IC]}$	~72$J_{[IC]}$
9	$1\ kg$	$30\ \frac{m}{s}$	$66\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(66\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(30)^2$	~1728$J_{[IC]}$	~576$J_{[IC]}$
1 packet (12 g) of fuel allegedly produces <u>CRAZY</u> joules$_{[IC]}$ of kinetic energy change.						

"The kinetic energy values in the right columns are X-plosively strange," Tera said. "I simply don't see a consistent correlation. One packet of fuel produces crazy amounts of kinetic energy—*allegedly produces* I should say."

"Hectii?" Tera shouted toward the door. "Have you tried this energy riddle?"

"I was about to ask you the same thing," Hectii said from the next room. "I'm finding very strange answers. Here, let me show you."

"Wait a moment," Tera said, as Hectii glided into the room. "Chip, show us the original impulse-momentum data that corresponds to Hectii's worksheet."

"Hectii's original impulse chart looks like this," Chip said, as he placed the following on Tera's screen:

***Impulse* for Hectii's Worksheet** These experiments always used 1 packet (12 g) of fuel.					**D**
	Mass	v_{initial}	v_{final}	***im*Δ*ρ* = *mv*f − *mv*i**	**imΔρ = _?_ρ or _?_ $\frac{kgm}{s}$**
1	$2\ kg$	$0\ \frac{m}{s}$	$6\ \frac{m}{s}$	$(2\ kg)(6\frac{m}{s}) - (2\ kg)(0\frac{m}{s})$	$12\ \rho$ or $12\ \frac{kgm}{s}$
2	$6\ kg$	$8\ \frac{m}{s}$	$10\frac{m}{s}$	$(6\ kg)(10\frac{m}{s}) - (6\ kg)(8\frac{m}{s})$	$12\ \rho$ or $12\ \frac{kgm}{s}$
3	$1\ kg$	$30\ \frac{m}{s}$	$42\ \frac{m}{s}$	$(1\ kg)(42\frac{m}{s}) - (1\ kg)(30)$	$12\ \rho$ or $12\ \frac{kgm}{s}$
4	$6\ kg$	$10\ \frac{m}{s}$	$12\ \frac{m}{s}$	$(6\ kg)(12\frac{m}{s}) - (6\ kg)(10\frac{m}{s})$	$12\ \rho$ or $12\ \frac{kgm}{s}$

The next experiments involved 3 packets (36 g) of fuel, so divide the # ρ by 3 to find the average amount of impulse stored in 1 packet of fuel!!					3 pk fuel made:	1 pk fuel made:
5	$4\,kg$	$0\,\frac{m}{s}$	$9\,\frac{m}{s}$	$(4\,kg)(9\frac{m}{s}) - (4\,kg)(0\frac{m}{s})$	36 ρ	12 ρ
6	$1\,kg$	$0\,\frac{m}{s}$	$36\,\frac{m}{s}$	$(1\,kg)(36\frac{m}{s}) - (1\,kg)(0\frac{m}{s})$	36 ρ	12 ρ
7	$3\,kg$	$0\,\frac{m}{s}$	$12\,\frac{m}{s}$	$(3\,kg)(12\frac{m}{s}) - (3\,kg)(0\frac{m}{s})$	36 ρ	12 ρ
In every case, 1 packet (12 g) of fuel produced __12__ ρ of impulse/ momentum-transfer.						

"That's the way I remember it, the impulse values in the right column are 100% consistent," Hectii stoically summarized. "There's a direct correlation between the amount of fuel used and the amount of impulse produced."

"Sometimes we launched the rockets from the launch pad, sometimes we threw the rockets, and sometimes we used three packets of fuel."

"And the answers were always the same," Hectii said.

"Last week Pico suggested we do some experiments with one rocket following another," Tera said. "We studied every possible type of launch."

"Exactly," Hectii verified. "And in every case, the fuel always produced 12 ρ of momentum-transfer for each 12 g packet of fuel."

"The impulse tables confirm your conclusion," Tera said excitedly. "Fuel always produces a very predictable increase in an object's momentum. Now, what did your kinetic energy table look like?"

"I had Chip fill in the [IC] impulse coefficient base of comparisons, but it still looks like this," Hectii said disappointingly as she showed Tera her phone display:

Hectii's Kinetic Energy Riddle These experiments always used 1 packet (12 g) of fuel.					**E**	
	M	$v_{initial}$	v_{final}	$\Delta KE_{[IC]} = \frac{1}{2}mv_f^{\,2} - \frac{1}{2}mv_i^{\,2}$	$\Delta KE_{[IC]} \cong$	
1	$2\ kg$	$0\ \frac{m}{s}$	$6\ \frac{m}{s}$	$\frac{1}{2}(2\ kg)(6\frac{m}{s})^2 - \frac{1}{2}(2\ kg)(0\frac{m}{s})^2$	36 $J_{[0.33]}$	
2	$6\ kg$	$8\ \frac{m}{s}$	$10\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(10\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(8\frac{m}{s})^2$	108 $J_{[0.11]}$	
3	$1\ kg$	$30\ \frac{m}{s}$	$42\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(42\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(30)^2$	432 $J_{[0.0278]}$	
4	$6\ kg$	$10\ \frac{m}{s}$	$12\ \frac{m}{s}$	$\frac{1}{2}(6\ kg)(12\frac{m}{s})^2 - \frac{1}{2}(6\ kg)(10\frac{m}{s})^2$	132 $J_{[0.091]}$	
The next experiments involved 3 packets (36 g) of fuel, so divide the number of joules$_{[IC]}$ by 3 to find the average number of joules$_{[IC]}$ of kinetic energy in 1 packet!!					3 pk fuel made:	1 pk fuel made:
5	$4\ kg$	$0\ \frac{m}{s}$	$9\ \frac{m}{s}$	$\frac{1}{2}(4\ kg)(9\frac{m}{s})^2 - \frac{1}{2}(4\ kg)(0\frac{m}{s})^2$	162 $J_{[0.22]}$	54 $J_{[0.22]}$
6	$1\ kg$	$0\ \frac{m}{s}$	$36\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(36\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(0\frac{m}{s})^2$	648 $J_{[0.056]}$	216 $J_{[0.056]}$
7	$3\ kg$	$0\ \frac{m}{s}$	$12\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(12\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(0\frac{m}{s})^2$	216 $J_{[0.167]}$	72 $J_{[0.167]}$
1 packet (12 g) of fuel allegedly produces <u>GARBAGE</u> joules$_{[IC]}$ of kinetic energy increase.						

"Look at the right column," Hectii said, with an air of irritation. "In terms of kinetic energy allegedly produced per packet of fuel, I found numbers ranging from 36 joules$_{[0.33]}$ per packet, to 216 J$_{[0.056]}$/pk to 432 J$_{[0.0278]}$/pk."

Tera pointed to the last line of Hectii's completed data table. "Very funny, Sis," She said with a conspiratorial smirk. "One packet of fuel allegedly produces *garbage* joules$_{[IC]}$ of kinetic energy change?"

"I suppose it was a bit rude of me to write that the kinetic energy equation was producing garbage for answers," Hectii said, suppressing a giggle. "But there's absolutely no correlation between grams of chemical fuel and the production of kinetic energy. And you must admit that this multi-parabolic equation isn't working very well."

"Perhaps that's it," Tera said. "Remember what Chip said? Something about an Educational Reform Act? Perhaps that's why these equations and answers must be preceded by equal-likely symbols (~)!"

"These values aren't equal-likely, they're garbage," Hectii submitted. "These multi-parabolic kinetic-joules$_{[IC]}$ don't relate to anything. They tell us nothing about the fuel, they…"

"Tera," Pico called from the next room, her voice filled with exasperation. "We need to have an e-meeting of the Space-sci Sherlocks. My calculations are producing strange answers. I'm sending you a copy of my table. Chip says I didn't do anything wrong. Why are these answers so strange?"

Here's the table Pico sent to Tera:

Pico's Kinetic Energy Riddle These experiments always used 1 packet (12 g) of fuel.					**F**
	M	**$v_{initial}$**	**v_{final}**	**$\Delta KE_{[IC]} = \frac{1}{2}mv_f^2 - \frac{1}{2}mv_i^2$**	**$\Delta KE_{[IC]} \cong$**
1	$4\ kg$	$0\ \frac{m}{s}$	$3\ \frac{m}{s}$	$\frac{1}{2}(4\ kg)(3\frac{m}{s})^2 - \frac{1}{2}(4\ kg)(0\frac{m}{s})^2$	18 $J_{[0.667]}$
2	$1\ kg$	$0\ \frac{m}{s}$	$12\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(12\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(0\frac{m}{s})^2$	72 $J_{[0.167]}$
3	$3\ kg$	$18\ \frac{m}{s}$	$22\ \frac{m}{s}$	$\frac{1}{2}(3\ kg)(22\frac{m}{s})^2 - \frac{1}{2}(3\ kg)(18)^2$	240 $J_{[0.050]}$
4	$1\ kg$	$60\ \frac{m}{s}$	$72\ \frac{m}{s}$	$\frac{1}{2}(1\ kg)(72\frac{m}{s})^2 - \frac{1}{2}(1\ kg)(60)^2$	792 $J_{[0.015]}$
1 packet (12 g) of fuel allegedly produces multi-parabolic kinetic-joules[IC] of kinetic energy change.					

"Once again, the kinetic energy values in the right column show absolutely no consistency at all!" Hectii said, as the girls shook their heads in dismay. "I must find out what multi-parabolic numbers are."

"How are we going to answer the question Chip gave us?" Pico said as she glided through the doorway. "*The Secretes of Murdered Energia* program asked, how much chemical/kinetic-energy does one packet of fuel allegedly store?"

"But the answers are incredibly inconsistent," Tera said. "Should we say it's impossible to determine how much kinetic energy is allegedly stored in the fuel?'

"Does that mean the Space-sci Sherlocks have discovered an unsolvable conundrum?"

"Not necessarily," Hectii said. "Maybe we should simply say that there's no correlation between the chemical bonds in the burning fuel and the amount of kinetic energy the rockets…?"

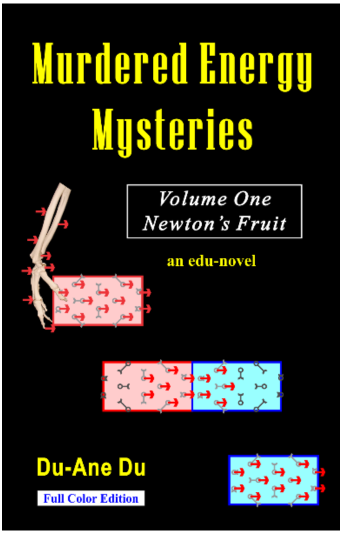
"…received? created?" Pico said. "You can't say that the rockets received the energy from the chemicals in the fuel—after all, the experiments show no mathematical or experimental correlation between the chemicals and the kinetic energy!"

There's one other possibility," Hectii deduced. "It's possible that this form of energy involves some type of murdered myth."

"If kinetic energy is a murdered myth," Pico wondered, "could other forms of *energia* also be dead?"

"Murdered?"

Excerpted from:



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Murdered Energy Mysteries seeks to increase understanding of the various forms of momentum and momentum transfer, as well as the various forms of energy and energy transfer. The lack of understanding on the part of the scientific community is substantial, and more research needs to be done.

—Du-Ane Du, author of the edu-novel *Murdered Energy Mysteries* (Amazon, Kindle, e-book 2018, paperback 2021.)

More information, visit www.Wacky1301SCI.com