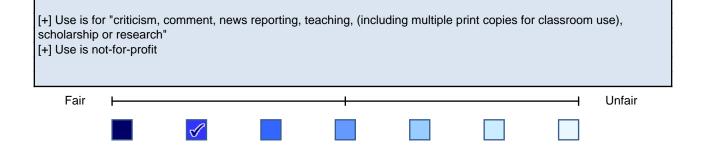
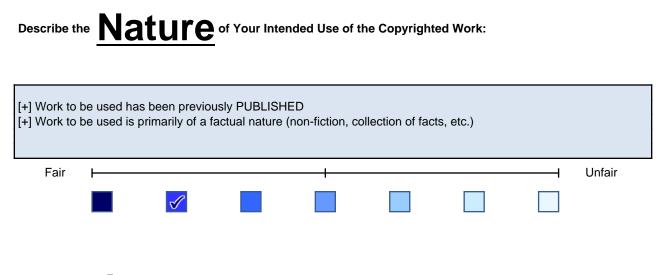
Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	The Fermi-LAT Galactic Center Excess: Evidence of Annihilating Dark Matter?
Copyright Holder:	Simona Murgia
Publication Status:	Published
Publisher:	Annual Review of Nuclear and Particle Science
Place of Publication:	USA
Publication Year:	2020
Description of Work:	Figure 1 of the work is partially used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022







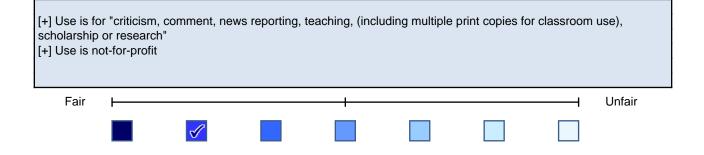
[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							

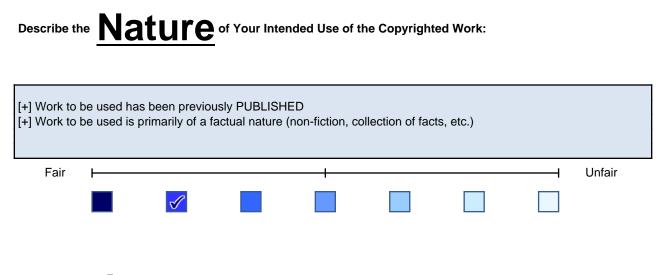
The Average "Fairness Level," Based on Your Rating of Each of the 4							
Factors, Is:							
[see tool disc	laimer for im	portant clarify	ring information	on]:			
Fair	I						Unfair
	\checkmark						

Signature:	Dehnsong
Date of Signature:	01/312022

Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	WIMP Dark Matter Searches With the ATLAS Detector at the LHC
Copyright Holder:	Stefano Giagu
Publication Status:	Published
Publisher:	Frontiers in Physics
Place of Publication:	Switzerland
Publication Year:	2019
Description of Work:	Figure 1 of the work is used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022







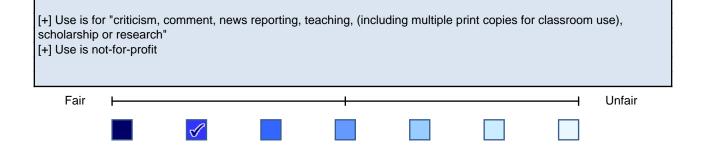
[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							

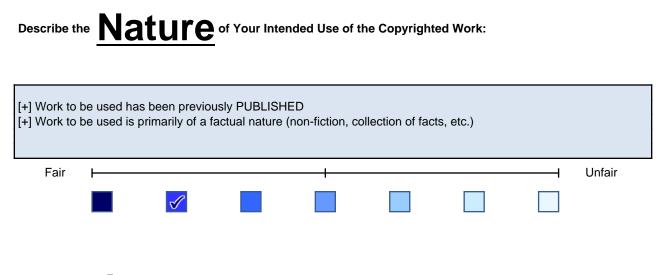
The Average	• <u>"Fa</u>	airne	ess l	_eve	Based	l on Your Rati	ing of Each	of the 4
Factors, Is:								
[see tool disc	claimer for i	mportant clai	ifying informa	tion]:				
Fair	 							Unfair
	Ś							

Signature:	physics
Date of Signature:	01/13/2022

Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	The Large Area Telescope on the Fermi Gamma-Ray Space Telescope Mission
Copyright Holder:	The Fermi Large Area Telescope Collaboration
Publication Status:	Published
Publisher:	The American Astronomical Society
Place of Publication:	USA
Publication Year:	2009
Description of Work:	Figure 1 of the work is used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022







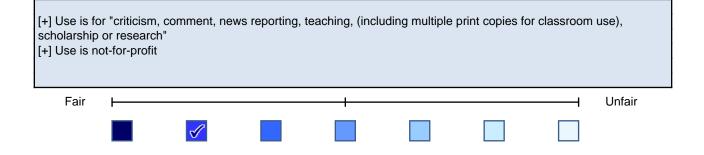
[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							

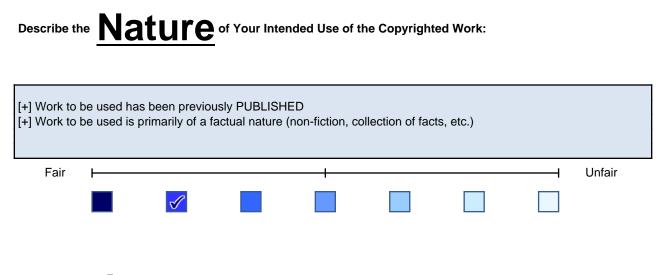
The Averag	• <mark>"Fa</mark>	airne	ess L	eve	Based	on Your Rati	ing of Each	of the 4
Factors, Is:								
[see tool dis	claimer for in	mportant clari	ifying informat	tion]:				
Fair	 							Unfair
	\checkmark							

Signature:	promo
Date of Signature:	01/13/2022

Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	The first deep X-ray and optical observations of the closest isolated radio pulsar
Copyright Holder:	A. Tiengo , R. Mignani , A. De Luca, P. Esposito, S. Mereghetti and A. Pellizzoni
Publication Status:	Published
Publisher:	American Institute of Physics
Place of Publication:	USA
Publication Year:	2011
Description of Work:	Figure 1 of the work is partially used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022







[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							

The Average	<u>"Fa</u>	irnes	ss L	evel	Based o	n Your Ratin	ng of Each	of the 4
Factors, Is:								
[see tool disc	laimer for imp	ortant clarifyi	ng informatior	n]:				
Fair	 							Unfair
	S							

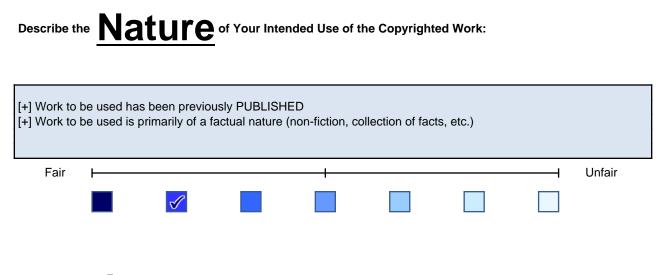
Signature:	Drow
Date of Signature:	01 /13 / 2022

Compiled using the **Fair Use Evaluator** [cc] 2008 Michael Brewer & the Office for Information Technology Policy, <u>http://librarycopyright.net/fairuse/</u>

Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	TASI 2008 Lectures on Dark Matter
Copyright Holder:	Dan Hooper
Publication Status:	Published
Publisher:	
Place of Publication:	
Publication Year:	2009
Description of Work:	The work is published online (accessed from https://arxiv.org/abs/0901.4090). Figure 1 of the work is used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022

Describe the **Purpose** and Character of Your Intended Use:

[+] Use is fo scholarship [+] Use is n	or research		ws reporting,	teaching, (inclu	uding multiple	print copies fo	r classroom	use),
Fair	I						———————————————————————————————————————	Unfair
		\checkmark						



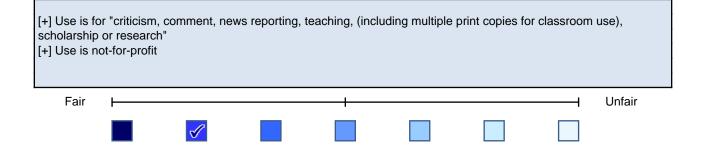
[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							

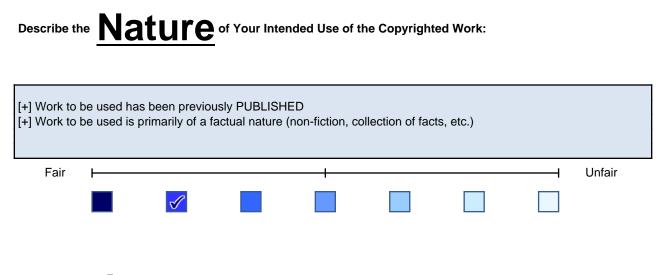
The Average	<u>"Fa</u>	irnes	ss L	evel	Based o	n Your Ratin	ng of Each	of the 4
Factors, Is:								
[see tool disc	laimer for imp	ortant clarifyi	ng informatior	n]:				
Fair	 							Unfair
	S							

Signature:	energy
Date of Signature:	01/13 12022

Name:	Deheng Song					
Job Title:						
Institution:	Virginia Tech					
Title of Work Used:	Planck 2018 results. VI. Cosmological parameters					
Copyright Holder:	Planck Collaboration					
Publication Status:	Published					
Publisher:	Astronomy & Astrophysics (EDP Sciences)					
Place of Publication:	France					
Publication Year:	2020					
Description of Work:	Figure 1 of the work is used in my Ph.D. dissertation for educational and informational purposes.					
Date of Evaluation:	January 13, 2022					
Date of Intended Use:	January 13, 2022					







[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							

The Averag	• <mark>"Fa</mark>	airne	ess L	eve	Based	on Your Rati	ing of Each	of the 4
Factors, Is:								
[see tool dis	claimer for in	mportant clari	ifying informat	tion]:				
Fair	 							Unfair
	\checkmark							

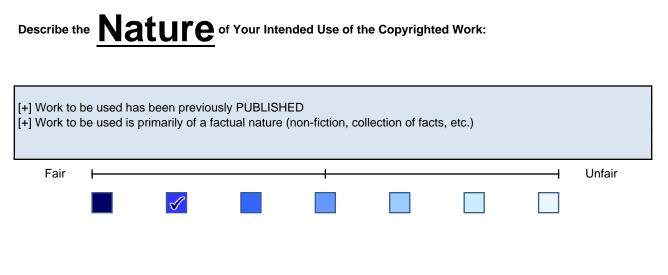
Signature:	on
Date of Signature:	0//13/2072

Compiled using the **Fair Use Evaluator** [cc] 2008 Michael Brewer & the Office for Information Technology Policy, <u>http://librarycopyright.net/fairuse/</u>

Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	A Direct Empirical Proof of the Existence of Dark Matter
Copyright Holder:	Douglas Clowe, MaruÅja BradaÄ•, Anthony H. Gonzalez, Maxim Markevitch, Scott
	W. Randall, Christine Jones, and Dennis Zaritsky
Publication Status:	Published
Publisher:	The American Astronomical Society
Place of Publication:	U.S.A.
Publication Year:	2006
Description of Work:	Figure 1 of the work is partially used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022

Describe the **Purpose** and Character of Your Intended Use:

[+] Use is fo scholarship [+] Use is n	or research		ws reporting,	teaching, (inclu	ıding multiple	print copies for	r classroom u	use),
Fair	 							Unfair
		\checkmark						



[+] Only the educationa	e amount rec I, artistic, scl	sonable portior juired to achiev nolarly, journali not the "heart"	ve the stated, stic, etc.)	socially-benef				
Fair	I							Unfair
	S							
		ect of						
		k as it will be u otential value	sed is absent	or is negligib	e & use of the	work will have	e little or no	negative
[+] Use of t	he work has	the potential to		prove the mar	ket for the wo	rk		
		k to be used is II be given with	• • • •	use				
		imizes the pote ot used outside			-	act its value (i.	e. steps are	taken to
Fair	 							Unfair
		\checkmark						
	_							

The Averag	• <mark>"Fa</mark>	airne	ess l	_eve	Based	l on Your Rati	ing of Each	of the 4
Factors, Is:	:							
[see tool dis	claimer for i	mportant clar	ifying informa	tion]:				
Fair	I							Unfair
		\checkmark						

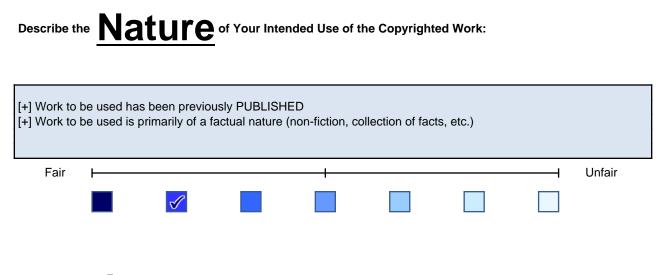
Signature:	Proto
Date of Signature:	01/13122

Compiled using the **Fair Use Evaluator** [cc] 2008 Michael Brewer & the Office for Information Technology Policy, <u>http://librarycopyright.net/fairuse/</u>

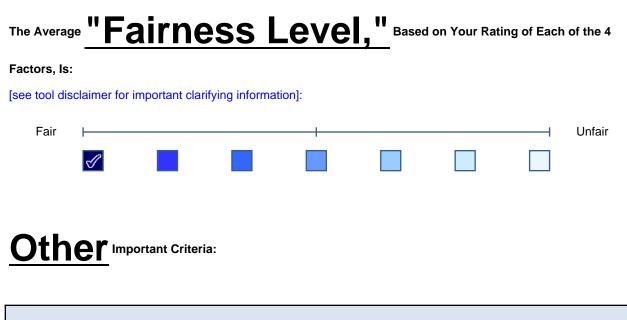
Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	Fermi's Five-year View of the Gamma-ray Sky
Copyright Holder:	National Aeronautics and Space Administration
Publication Status:	Published
Publisher:	
Place of Publication:	
Publication Year:	2013
Description of Work:	The article is published online (accessed by https://svs.gsfc.nasa.gov/11342). The first figure of the work is used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022

Describe the **Purpose** and Character of Your Intended Use:

[+] Use is fo scholarship [+] Use is n	or research		ws reporting,	teaching, (inclu	uding multiple	print copies fo	r classroom	use),
Fair	I						———————————————————————————————————————	Unfair
		\checkmark						



[+] Only the educational	e amount req I, artistic, scł	sonable portior uired to achiev nolarly, journali not the "heart"	e the stated, stic, etc.)	socially-benef				
Fair	 							Unfair
	Ś							
Work:		ect of Y						
		k as it will be u otential value	sed is absent	or is negligibl	e & use of the	work will have	e little or no	negative
		the potential to to be used is		prove the mar	ket for the wor	ĸ		
[+] Proper a	attribution wi	ll be given with	the intended					
		mizes the pote ot used outside				act its value (i.e	e. steps are	taken to
Fair	I							Unfair
	\checkmark							
	_							



According to NASA Media Usage Guidelines: "NASA content - images, audio, video, and computer files used in the rendition of 3-dimensional models, such as texture maps and polygon data in any format - generally are not subject to copyright in the United States. You may use this material for educational or informational purposes, including photo collections, textbooks, public exhibits, computer graphical simulations and Internet Web pages."

Based on the information and justification I have provided above, I, Deheng Song, am asserting this use is FAIR under Section 107 of the U.S. Copyright Code.

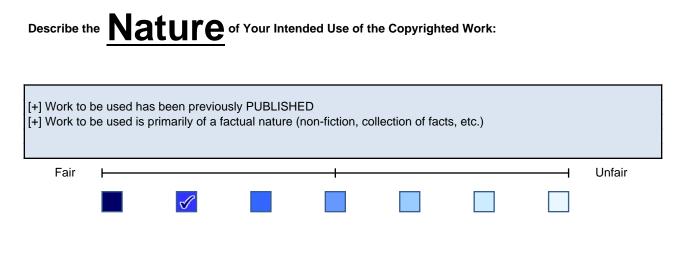
Signature:
 Signature:
 Discrete

 Date of Signature:
 Discrete

Name:	Deheng Song
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	Extended rotation curves of spiral galaxies: dark haloes and modified dynamics
Copyright Holder:	K. G. Begeman, A. H. Broeils, R. H. Sanders
Publication Status:	Published
Publisher:	Monthly Notices of the Royal Astronomical Society
Place of Publication:	United Kingdom
Publication Year:	1991
Description of Work:	Figure 1 of the work is partially used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	January 13, 2022
Date of Intended Use:	January 13, 2022







[+] Only the educationa	e amount req I, artistic, sch	sonable portion uired to achiev nolarly, journalis not the "heart" o	e the stated, stic, etc.)	socially-benef		-		
Fair	H						1	Unfair
	S							
Work: [+] The wor [+] A marke	rk is NOT cur et for the wor	rrently under co k as it will be us otential value	ommercial exp	oloitation (out	of print, no lice	ensing availab	le, etc.)	
[+] Use of t [+] The cop [+] Proper a [+] Use of t	he work has by of the work attribution wil he work mini	the potential to to be used is l be given with mizes the pote of used outside	a legal copy the intended ntial for unau	use thorized use t	hat could impa		e. steps are	taken to
Fair								Unfair
	\checkmark							

The Average	<u>"Fa</u>	irne	ss L	.evel	Based	on Your Rati	ng of Each	of the 4
Factors, Is:								
[see tool disc	laimer for im	portant clarify	ring information	on]:				
Fair	I							Unfair
	\checkmark							

Signature:	Domo
Date of Signature:	0/13/2022