

Copyright information:

- Reprinted article with permission from Sean Heston, Emily Kehoe, Yudai Suwa, Shunsaku Horiuchi, Physical Review D, Volume 107, Pages 123034, 2023. Copyright 2023 by the American Physical Society.
- Reprinted article with permission from Sean Heston, Shunsaku Horiuchi, Satoshi Shirai, Physical Review D, currently under review by the American Physical Society.

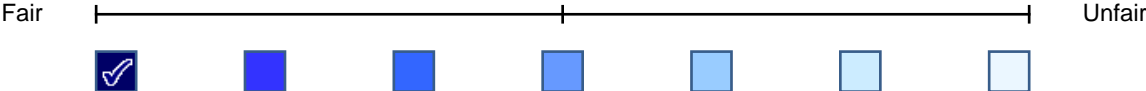
Fair Use Evaluation Documentation

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

Name:	Sean Heston
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	Observing supernova neutrino light curves with super-kamiokande: Expected event number over 10 s
Copyright Holder:	Y. Suwa, K. Sumiyoshi, K. Nakazato, Y. Takahira, Y. Koshio, M. Mori, and R. A. Wendell
Publication Status:	Published
Publisher:	American Astronomical Society
Place of Publication:	United States
Publication Year:	2019
Description of Work:	Figure 1 of the work is partially used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	May 7, 2024
Date of Intended Use:	May 7, 2024

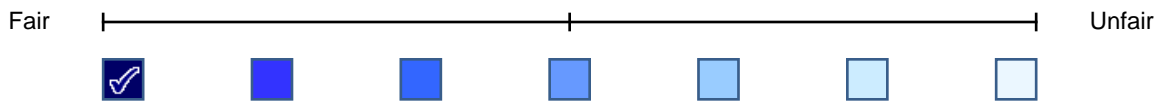
Describe the **Purpose** and Character of Your Intended Use:

[+] Use is for "criticism, comment, news reporting, teaching, (including multiple print copies for classroom use), scholarship or research"
[+] Use is not-for-profit



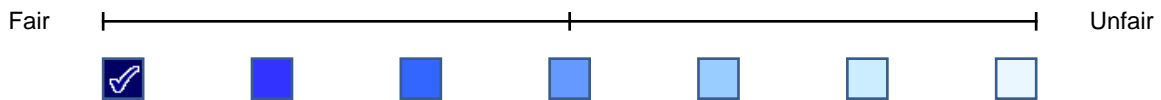
Describe the **Nature** of Your Intended Use of the Copyrighted Work:

[+] Work to be used has been previously PUBLISHED
[+] Work to be used is primarily of a factual nature (non-fiction, collection of facts, etc.)



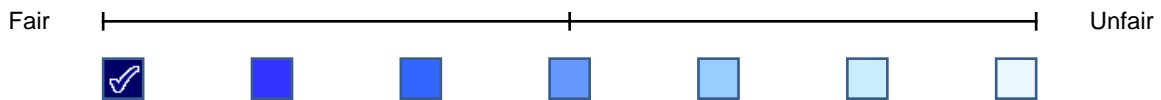
Describe the **Amount** of Your Intended Use in Relation to the Copyrighted Work as a Whole:

[+] Only limited and reasonable portions will be used
[+] The portion used is not the "heart" of the work (the portion considered most central to the work as a whole)
[+] Only the amount required to achieve the stated, socially-beneficial purpose or objective will be used (be that educational, artistic, scholarly, journalistic, etc.)



Describe the **Effect** of Your Intended Use on the Potential Market or Value of the Copyrighted Work:

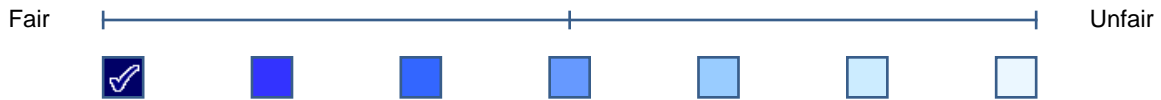
[+] A market for the work as it will be used is absent or is negligible & use of the work will have little or no negative impact on its value or potential value
[+] Use of the work minimizes the potential for unauthorized use that could impact its value (i.e. steps are taken to ensure the content is not used outside of the stated purpose or audience)
[+] Use of the work has the potential to create or improve the market for the work
[+] The copy of the work to be used is a legal copy
[+] Proper attribution will be given with the intended use



The Average **"Fairness Level,"** Based on Your Rating of Each of the 4

Factors, Is:

[\[see tool disclaimer for important clarifying information\]:](#)



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

Signature: Sean Heston

Date of Signature: 05/07/2024

***Disclaimer:** This document is intended to help you collect, organize & archive the information you might need to support your fair use evaluation. It is not a source of legal advice or assistance. The results are only as good as the input you have provided by are intended to suggest next steps, and not to provide a final judgment. It is recommended that you share this evaluation with a copyright specialist before proceeding with your intended use.

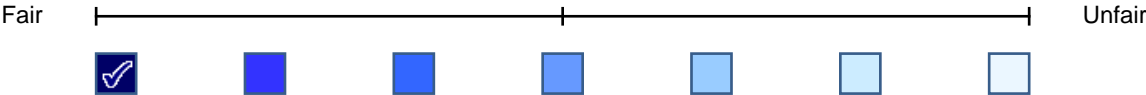
Fair Use Evaluation Documentation

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

Name:	Sean Heston
Job Title:	
Institution:	Virginia Tech
Title of Work Used:	Conditions for shock revival by neutrino heating in core-collapse supernovae
Copyright Holder:	H.-T. Janka
Publication Status:	Published
Publisher:	European Southern Observatory
Place of Publication:	France
Publication Year:	2001
Description of Work:	Figure 1 of the work is partially used in my Ph.D. dissertation for educational and informational purposes.
Date of Evaluation:	May 7, 2024
Date of Intended Use:	May 7, 2024

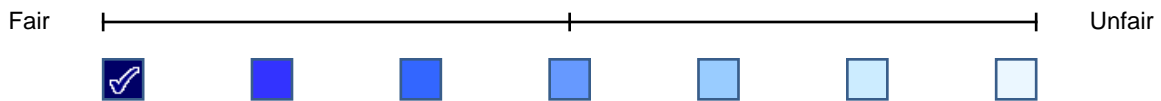
Describe the **Purpose** and Character of Your Intended Use:

[+] Use is for "criticism, comment, news reporting, teaching, (including multiple print copies for classroom use), scholarship or research"
[+] Use is not-for-profit



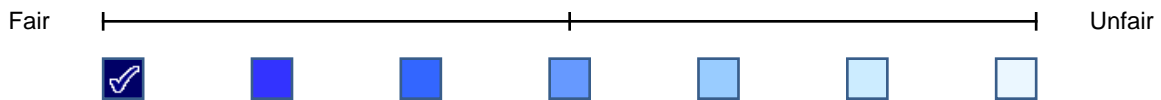
Describe the **Nature** of Your Intended Use of the Copyrighted Work:

[+] Work to be used has been previously PUBLISHED
[+] Work to be used is primarily of a factual nature (non-fiction, collection of facts, etc.)



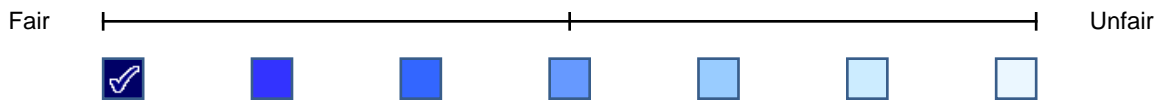
Describe the **Amount** of Your Intended Use in Relation to the Copyrighted Work as a Whole:

[+] Only limited and reasonable portions will be used
[+] The portion used is not the "heart" of the work (the portion considered most central to the work as a whole)
[+] Only the amount required to achieve the stated, socially-beneficial purpose or objective will be used (be that educational, artistic, scholarly, journalistic, etc.)



Describe the **Effect** of Your Intended Use on the Potential Market or Value of the Copyrighted Work:

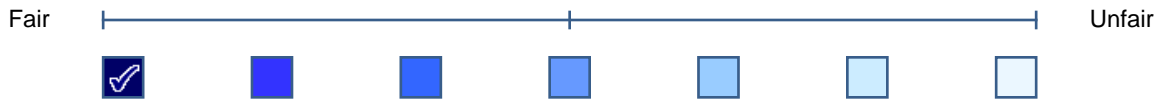
[+] A market for the work as it will be used is absent or is negligible & use of the work will have little or no negative impact on its value or potential value
[+] Use of the work minimizes the potential for unauthorized use that could impact its value (i.e. steps are taken to ensure the content is not used outside of the stated purpose or audience)
[+] Use of the work has the potential to create or improve the market for the work
[+] The copy of the work to be used is a legal copy
[+] Proper attribution will be given with the intended use



The Average **"Fairness Level,"** Based on Your Rating of Each of the 4

Factors, Is:

[\[see tool disclaimer for important clarifying information\]:](#)



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

Signature: Sean Heston

Date of Signature: 05/07/2024

****Disclaimer:** This document is intended to help you collect, organize & archive the information you might need to support your fair use evaluation. It is not a source of legal advice or assistance. The results are only as good as the input you have provided by are intended to suggest next steps, and not to provide a final judgment. It is recommended that you share this evaluation with a copyright specialist before proceeding with your intended use.*