

3 **INSERT Your Full Title Here**

4 INSERT YOUR NAME HERE¹

5 ¹*Planetary Sciences Spaceship*
6 *Earth's Solar System*
Atlanta, 30303, USA

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8 Submitted to PSJ

9 **ABSTRACT**

10 INSERT your abstract here

11 *Keywords:* Astrobiology (74) — Jupiter (873) — Europa (2189)

12 **1. INTRODUCTION**

13 INSERT your text here

14 INSERT a footnote like this¹

15 INSERT a list of items like this:

16 ●You Should Really Care About These Things

17 1.INSERT one thing here

18 2.INSERT another thing here

19 3.INSERT another thing here

20 INSERT some more text here

21 **2. NEXT THING WE CARE ABOUT**

22 INSERT your text here

23 **3. ANOTHER THING WE CARE ABOUT**

24 INSERT your text here

25 **4. TABLES**

26 Tables can be constructed with L^AT_EX's standard table environment or the AAST_EX's deluxetable environment.
27 The deluxetable construct handles long tables better but has a larger overhead due to the greater amount of defined
28 mark up used set up and manipulate the table structure. The choice of which to use is up to the author.

29 Additional details are available in the AASTeX guidelines at <http://journals.aas.org/authors/aastex.html>

30 **4.1. Column math mode**

Corresponding author: INSERT Your Name Here
[INSERT your.email.here](mailto:INSERT.your.email.here)

¹ five toes on most human feet

Table 1. Fun facts about the first 5 Messier objects

Messier Number	NGC/IC Number	Common Name	Object Type	Distance (kpc)	Constellation	V (mag)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
M1	NGC 1952	Crab Nebula	Supernova remnant	2	Taurus	8.4
M2	NGC 7089	Messier 2	Cluster, globular	11.5	Aquarius	6.3
M3	NGC 5272	Messier 3	Cluster, globular	10.4	Canes Venatici	6.2
M4	NGC 6121	Messier 4	Cluster, globular	2.2	Scorpius	5.9
M5	NGC 5904	Messier 5	Cluster, globular	24.5	Serpens	5.9

NOTE—The Distance is centered on the decimals. Note that when using decimal alignment you need to include the `\decimals` command before `\startdata` and all of the values in that column have to have a space before the next ampersand.

Both the `LaTeX` `tabular` and `AASTeX` `deluxetable` require an argument to define the alignment and number of columns. The most common values are “c”, “l” and “r” for `center`, `left`, and `right` justification. If these values are capitalized, e.g. “C”, “L”, or “R”, then that specific column will automatically be in math mode meaning that \$s are not required. Note that having embedded dollar signs in the table does not affect the output.

4.2. Decimal Alignment in Columns

Aligning a column by the decimal point can be difficult with only center, left, and right justification options. To address this `AASTeX` introduces the `\decimals` command and a column justification option, “D”, to align data in that column on the decimal. In `deluxetable` the `\decimals` command is invoked before the `\startdata` call but can be anywhere in `LaTeX`’s `tabular` environment.

An important thing to note when using decimal alignment is that each decimal column *must end with a space before the ampersand*, e.g. “& ” is not allowed. Empty decimal columns are indicated with a decimal, e.g. “.”. Do not use `deluxetable`’s `\nodata` command.

The “D” alignment token works by splitting the column into two parts on the decimal. While this is invisible to the user one must be aware of how it works so that the headers are accounted for correctly. All decimal column headers need to span two columns to get the alignment correct. This can be done with a multicolumn call, e.g. `\multicolumn{2}{c}` or `\multicolumn{2}{c}`, or use the new `\twocolhead` command in `deluxetable`. Since `LaTeX` is splitting these columns into two it is important to get the table width right so that they appear joined on the page. You may have to run the `LaTeX` compiler twice to get it right.

4.3. Automatic Column Header Numbering

The command `\colnumbers` can be included to automatically number each column as the last row in the header. In a `LaTeX` `tabular` environment the `\colnumbers` should be invoked at the location where the author wants the numbers to appear, e.g., after the last line of specified table header rows. In `deluxetable` this command has to come before `\startdata`. Note that when using decimal alignment in a table the command `\decimalcolnumbers` must be used instead of `\colnumbers` and `\decimals`.

Table 1 provides some basic information about the first five Messier Objects and illustrates how many of these new features can be used together. It has automatic column numbering and decimal alignment of the distances. This table also uses `tablenum` to number the table.

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5. FIGURES

Authors can include a wide number of different graphics with their articles, but for this class we use only portable document format (PDF). Below is an example of a Figure. Use `\plotone` for one Figure and `\plottwo` for two side-by-side Figures.

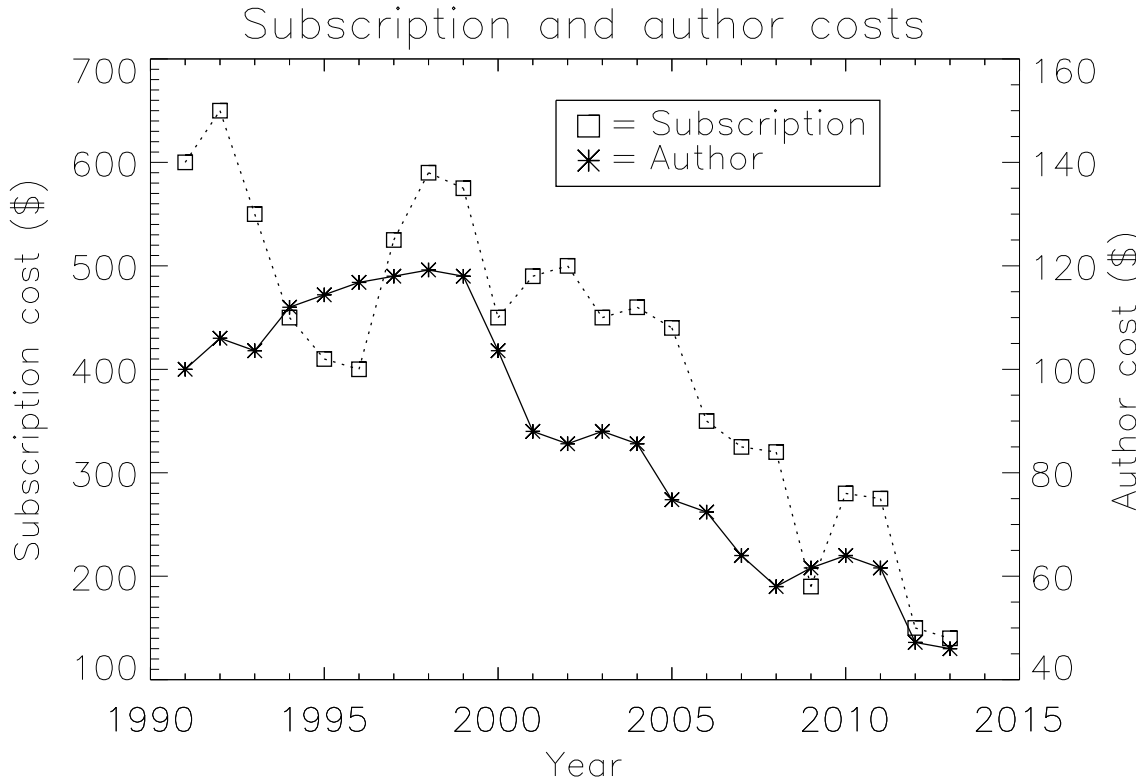


Figure 1. The subscription (squares) and author publication (asterisks) costs from 1991 to 2013. Subscription cost are on the left Y axis while the author costs are on the right Y axis. All numbers in US dollars and adjusted for inflation. The author charges also account for the change from page charges to digital quanta in April 2011.

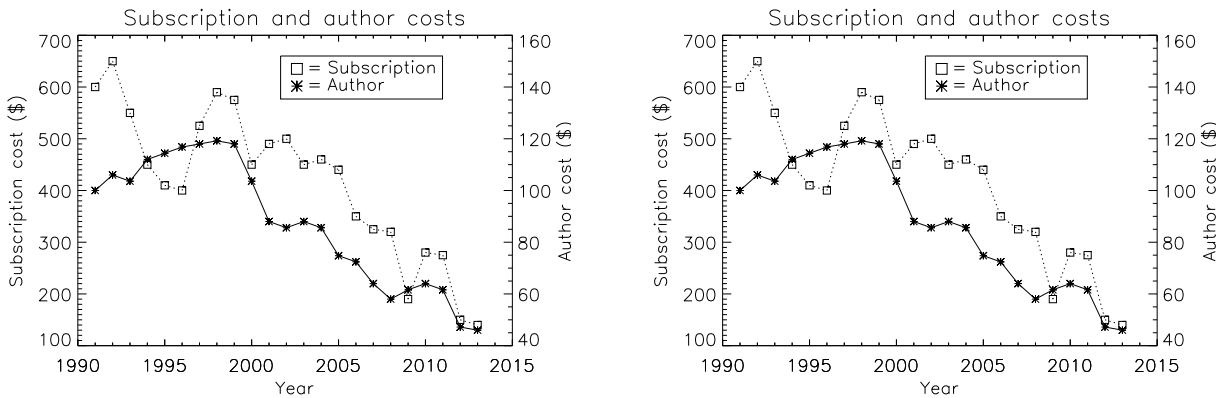


Figure 2. The subscription (squares) and author publication (asterisks) costs from 1991 to 2013. Subscription cost are on the left Y axis while the author costs are on the right Y axis. All numbers in US dollars and adjusted for inflation. The author charges also account for the change from page charges to digital quanta in April 2011.

6. EQUATIONS

The most common mathematical symbols and formulas are in the `amsmath` package. `AASTEX` requires this package so there is no need to specifically call for it in the document preamble. Most modern `LaTEX` distributions already contain this package. If you do not have this package or the other required packages, `revtex4-1`, `latexsym`, `graphicx`, `amssymb`, `longtable`, and `epsf`, they can be obtained from <http://www.ctan.org>

Equations can be displayed in the text, e.g., $E = mc^2$, where you need to surround the math by dollar signs (`$`). Alternately, you can create an equation on a separate line with `begin` and `end` commands:

$$E = mc^2 \tag{1}$$

INSERT your acknowledgments here

Facilities: CTIO:0.9m, CTIO:1.5m, HST(STIS), AAVSO

Software: somethingcool (Henry et al. 2018)

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APPENDIX

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A. APPENDIX INFORMATION PART A — JUST A LITTLE SOMETHING

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Appendices can be broken into separate sections just like in the main text. The only difference is that each appendix section is indexed by a letter (A, B, C, etc.) instead of a number.

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B. APPENDIX INFORMATION PART B — ROTATING TABLES

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To place a Table in a landscape mode start the table portion with `\begin{longrotatetable}` and end with `\end{longrotatetable}`.

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A handy “cheat sheet” that provides the necessary LaTeX to produce 17 different types of tables is available at http://journals.aas.org/authors/aastex/aasguide.html#table_cheat_sheet.

Table 1. Observable Characteristics of Galactic/Magellanic Cloud novae with X-ray observations

Name	V_{max} (mag)	Date (JD)	t_2 (d)	FWHM (km s ⁻¹)	E(B-V) (mag)	N_H (cm ⁻²)	Period (d)	D (kpc)	Dust?	RN?
CI Aql	8.83 (1)	2451665.5 (1)	32 (2)	2300 (3)	0.8±0.2 (4)	1.2e+22	0.62 (4)	6.25±5 (4)	N	Y
CSS081007	...	2454596.5	...	...	0.146	1.1e+21	1.77 (5)	4.45±1.95 (6)	...	...
GQ Mus	7.2 (7)	2445352.5 (7)	18 (7)	1000 (8)	0.45 (9)	3.8e+21	0.059375 (10)	4.8±1 (9)	N (7)	...
IM Nor	7.84 (11)	2452289 (2)	50 (2)	1150 (12)	0.8±0.2 (4)	8e+21	0.102 (13)	4.25±3.4 (4)	N	Y
KT Eri	5.42 (14)	2455150.17 (14)	6.6 (14)	3000 (15)	0.08 (15)	5.5e+20	...	6.5 (15)	N	M
LMC 1995	10.7 (16)	2449778.5 (16)	15±2 (17)	...	0.15 (203)	7.8e+20	...	50	...	...
LMC 2000	11.45 (18)	2451737.5 (18)	9±2 (19)	1700 (20)	0.15 (203)	7.8e+20	...	50	...	...
LMC 2005	11.5 (21)	2453700.5 (21)	63 (22)	900 (23)	0.15 (203)	1e+21	...	50	M (24)	...
LMC 2009a	10.6 (25)	2454867.5 (25)	4±1	3900 (25)	0.15 (203)	5.7e+20	1.19 (26)	50	N	Y
SMC 2005	10.4 (27)	2453588.5 (27)	...	3200 (28)	...	5e+20	...	61	...	...
QY Mus	8.1 (29)	2454739.90 (29)	60:	...	0.71 (30)	4.2e+21	...	...	M	...
RS Oph	4.5 (31)	2453779.44 (14)	7.9 (14)	3930 (31)	0.73 (32)	2.25e+21	456 (33)	1.6±0.3 (33)	N (34)	Y
U Sco	8.05 (35)	2455224.94 (35)	1.2 (36)	7600 (37)	0.2±0.1 (4)	1.2e+21	1.23056 (36)	12±2 (4)	N	Y