Table	1:	Additional	AASTEX	Symbols

$\lesssim$	$\label{lessim} \$	$\gtrsim$	\gtrsim, \ga
$\mu\mathrm{m}$	\micron		\sbond
=	\dbond	=	\tbond
$\odot$	\sun	$\oplus$	\earth
$\bigcirc$	\diameter		
0	\arcdeg, \degr		\sq
′	\arcmin	//	\arcsec
$\overset{\mathrm{d}}{\cdot}$	\fd	h •	\fh
$_{\boldsymbol{\cdot}}^{\mathrm{m}}$	\fm	s	\fs
•	\fdg	<i>'</i>	\farcm
<i>''</i>	\farcs	p •	\fp
$\frac{1}{2}$	\onehalf	UBVR	\ubvr
$\frac{1}{3}$	\onethird	$U\!-\!B$	\ub
$\frac{2}{3}$	\twothirds	$B\!-\!V$	\bv
$\frac{Y}{4}$	\onequarter	$V\!-\!R$	\vr
$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{3}{4}$	\threequarters	$U\!-\!R$	\ur

Table 2: Text-mode accents

ò	\'{o}	ō	\={o}	oo	\t{oo}
ó	\'{o}	ò	\.{o}	Q	\c{o}
ô	\^{o}	ŏ	$\u{o}$	ó	$\d{o}$
ö	\"{o}	ŏ	\v{o}	Q	\b{o}
õ	\~{o}	ő	\H{o}		

Table 3: National symbols

œ	\oe	å	\aa	ł	\1
Œ	\0E	Å	\AA	Ł	\L
æ	\ae	Ø	\0	ß	\ss
702	\ A E	$\alpha$	١.٥		

Table 4: Math-mode accents

$\hat{a}$	$\hat{a}$	$\dot{a}$	\dot{a}
$\check{a}$	$\check{a}$	$\ddot{a}$	\ddot{a}
$\tilde{a}$	$\tilde{a}$	$reve{a}$	\breve{a}
$\acute{a}$	\acute{a}	$\bar{a}$	\bar{a}
à	\grave{a}	$\vec{a}$	\vec{a}

Table 5: Greek and Hebrew letters (math mode)

$\alpha$	\alpha	$\nu$	\nu
$\beta$	\beta	ξ	\xi
$\gamma$	\gamma	o	0
$\delta$	\delta	$\pi$	\pi
$\epsilon$	\epsilon	ho	\rho
ζ	\zeta	$\sigma$	\sigma
$\eta$	\eta	au	\tau
$\theta$	\theta	v	\upsilon
$\iota$	\iota	$\phi$	\phi
$\kappa$	\kappa	$\chi$	\chi
$\lambda$	\lambda	$\psi$	\psi
$\mu$	\mu	$\omega$	\omega
F	\digamma	$\varkappa$	\varkappa
$\varepsilon$	\varepsilon	ς	\varsigma
$\vartheta$	\vartheta	$\varphi$	\varphi
$\varrho$	\varrho		
Γ	\Gamma	$\sum$	\Sigma
$\Delta$	\Delta	Υ	$\Upsilon$
Θ	\Theta	$\Phi$	\Phi
$\Lambda$	\Lambda	$\Psi$	\Psi
Ξ	\Xi	$\Omega$	\Omega
Π	\Pi		
×	\aleph	コ	\beth
I	\gimel	٦	$\d$

Table 6: Binary operators (math mode)

$\pm$	\pm	$\cap$	\cap
Ŧ	\mp	$\cup$	\cup
\	\setminus	$\forall$	\uplus
	\cdot	П	\sqcap
×	\times	$\Box$	\sqcup
*	\ast	◁	$\triangleleft$
*	\star	$\triangleright$	\triangleright
$\Diamond$	\diamond	}	\wr
0	\circ	$\bigcirc$	\bigcirc
•	\bullet	$\triangle$	\bigtriangleup
÷	\div	$\nabla$	\bigtriangledown
$\triangleleft$	\lhd	$\triangleright$	\rhd
$\vee$	\vee	$\odot$	\odot
$\wedge$	\wedge	†	\dagger
$\oplus$	\oplus	‡	\ddagger
$\ominus$	\ominus	П	\amalg
$\otimes$	\otimes	$\leq$	\unlhd
$\oslash$	\oslash	$\geq$	\unrhd

Table 7: AMS binary operators (math mode)

÷	\dotplus	×	\ltimes
	\smallsetminus	×	\rtimes
$\qquad \qquad \bigcap$	\Cap, \doublecap	$\rightarrow$	\leftthreetimes
$\bigcup$	\Cup, \doublecup	/	\rightthreetimes
$\overline{\wedge}$	\barwedge	人	\curlywedge
<u>\\ =</u>	\veebar	Υ	\curlyvee
$\overline{\wedge}$	\doublebarwedge		
$\Box$	\boxminus	$\ominus$	\circleddash
$\boxtimes$	\boxtimes	*	\circledast
lacksquare	\boxdot	0	\circledcirc
$\blacksquare$	\boxplus		\centerdot
*	\divideontimes	Т	\intercal

Table 8: Miscellaneous symbols

†	\dag	§	\S
<b>©</b>	\copyright	‡	\ddag
$\P$	\P	£	\pounds
#	\#	\$	\\$
%	\%	&	\&
_	\_	{	\{
}	\}	•	

Table 10: AMS miscellaneous symbols (math mode)

$\hbar$	\hbar	1	\backprime
$\hbar$	\hslash	Ø	$\vert varnothing$
$\triangle$	$\vartriangle$	<b>A</b>	\blacktriangle
$\nabla$	\triangledown	lacktriangledown	\blacktriangledown
	\square		\blacksquare
$\Diamond$	\lozenge	<b>♦</b>	\blacklozenge
$\odot$	\circledS	*	\bigstar
_	\angle	⋖	\sphericalangle
4	\measuredangle		
∄	\nexists	C	\complement
Ω	\mho	$\mathfrak{F}$	\eth
Ь	\Finv	/	\diagup
G	\Game		\diagdown
$\Bbbk$	\Bbbk	1	\restriction

Table 11: Arrows (math mode)

```
Table 9: Miscellaneous symbols (math mode)
```

×	\aleph	,	\prime
$\hbar$	\hbar	Ø	\emptyset
$\imath$	\imath	$\nabla$	\nabla
J	$\$ jmath		\surd
$\ell$	\ell	Т	\top
Ø	\wp	$\perp$	\bot
$\Re$	\Re		\
$\Im$	\Im	_	\angle
$\partial$	\partial	$\triangle$	\triangle
$\infty$	$\$ infty	\	\backslash
	\Box	$\Diamond$	\Diamond
$\forall$	\forall	#	\sharp
$\exists$	\exists	*	\clubsuit
$\neg$	\neg	$\Diamond$	\diamondsuit
þ	\flat	$\Diamond$	$\heartsuit$
Ц	\natural	<b>^</b>	\spadesuit
Ω	\mho		

```
← \leftarrow
                          ← \longleftarrow
← \Leftarrow
                          ← \Longleftarrow
                          \longrightarrow \label{longright} \label{longright} \label{longright}
\rightarrow \ rightarrow
\Rightarrow \label{Rightarrow}
                          \Longrightarrow \Longrightarrow
\longleftrightarrow \longleftrightarrow
\Leftrightarrow \label{leftrightarrow} 
                          \iff \Longleftrightarrow
\mapsto \mbox{\tt mapsto}
                          \hookleftarrow \verb|\hookleftarrow|
                           \hookrightarrow \hookrightarrow

→ \rightharpoonup

→ \rightharpoondown
\rightleftharpoons\rightleftharpoons \leadsto \leadsto
↑ \uparrow
                           ↑ \Updownarrow
↑ \Uparrow
                               \nearrow
↓ \downarrow
                               \searrow
↓ \Downarrow
                               \swarrow
↑ \updownarrow
                               \nwarrow
```

Table 12: AMS arrows (math mode)

<b>←</b>	\dashleftarrow	>	\dashrightarrow
otin  oti	\leftleftarrows	$\Rightarrow$	\rightrightarrows
$\stackrel{\longleftarrow}{\longrightarrow}$	\leftrightarrows	$\stackrel{\longrightarrow}{\longleftarrow}$	\rightleftarrows
$\Leftarrow$	\Lleftarrow	$\Rightarrow$	\Rrightarrow
₩	\twoheadleftarrow	$\longrightarrow$	\twoheadrightarrow
$\longleftrightarrow$	\leftarrowtail	$\longrightarrow$	\rightarrowtail
$\boldsymbol{\leftarrow}\!$	\looparrowleft		\looparrowright
$\leftrightarrows$	\leftrightharpoons	$\rightleftharpoons$	\rightleftharpoons
$ \frown $	\curvearrowleft	$\curvearrowright$	\curvearrowright
Q	\circlearrowleft	$\bigcirc$	\circlearrowright
↰	\Lsh	ightharpoons	\Rsh
$\uparrow \uparrow$	\upuparrows	$\downarrow \downarrow$	\downdownarrows
1	\upharpoonleft	1	\upharpoonright
1	\downharpoonleft		\downharpoonright
_0	\multimap	$\rightsquigarrow$	\rightsquigarrow
<b>&lt;</b> ~~→	\leftrightsquigarrow	,	
$\leftarrow\!$	\nleftarrow	$\rightarrow \rightarrow$	\nrightarrow
#	\nLeftarrow	$\Rightarrow$	\nRightarrow
$\leftrightarrow \rightarrow$	\nleftrightarrow	$\Leftrightarrow$	$\n$

Table 13: Relations (math mode)

$\leq$	\leq	$\geq$	\geq
$\prec$	\prec	$\succ$	\succ
<b>≚</b>	\preceq	$\succeq$	\succeq
$\ll$	\11	$\gg$	\gg
$\subset$	\subset	$\supset$	\supset
$\subseteq$	\subseteq	$\supseteq$	\supseteq
	\sqsubset		\sqsupset
	\sqsubseteq	$\supseteq$	\sqsupseteq
$\in$	\in	$\ni$	\ni
$\vdash$	\vdash	$\dashv$	\dashv
$\smile$	\smile		\mid
$\overline{}$	\frown	Ì	\parallel
$\neq$	\neq	Ţ	\perp
$\equiv$	\equiv	$\cong$	\cong
$\sim$	\sim	$\bowtie$	\bowtie
$\simeq$	\simeq	$\propto$	\propto
$\asymp$	\asymp	=	\models
$\approx$	\approx	÷	\doteq

\Join

Table 14: AMS binary relations (math mode)

$\leq$	<pre>\leqq \leqslant \eqslantless \lesssim \lessapprox \approxeq \legsdat</pre>	$\geq$	\geqq \geqslant \eqslantgtr \gtrsim \gtrapprox \eqsim
$\leq$	\leqslant	$\geqslant$	\geqslant
<	\eqslantless	≽	\eqslantgtr
$\lesssim$	\lesssim	$\gtrsim$	\gtrsim
≲	\lessapprox	$\gtrapprox$	\gtrapprox
$\approx$	\approxeq	$\overline{\sim}$	\eqsim
<	\lessdot	⋗	\gtrdot
<b>~</b>	\lll, \llless	<b>&gt;&gt;&gt;</b>	\ggg, \gggtr
$\leq$	\lessgtr	$\geq$	\gtrless
$\leq$	\lesseqgtr	2	\gtreqless
₩\\\\\\\\\\\\\	\lesseqqgtr	$\geq$	\gtreqless \gtreqqless \eqcirc
÷	\doteqdot, \Doteq	=	\eqcirc
=	\risingdotseq	=	\circeq
=	\fallingdotseq	$\triangleq$	\triangleq
	\backsim	$\sim$	\thicksim
	\backsimeq	$\approx$	\thickapprox
$\subseteq$	\subseteqq	≈	\supseteqq
	\Subset	∋	\Supset
	\sqsubset	$\Box$	\sqsupset
$\preccurlyeq$	\preccurlyeq	$\succcurlyeq$	\succcurlyeq
$\Rightarrow$	\curlyeqprec	$\nearrow$	\curlyeqsucc
$\lesssim$	\precsim	$\searrow$	\succsim
△ %\?\	\precapprox		\succapprox
	\vartriangleleft	$\triangleright$	\vartriangleright
⊴ ⊨	\trianglelefteq		\trianglerighteq
	\vDash	$\vdash$	\Vdash
III	\Vvdash		
$\overline{}$	\smallsmile	1	\shortmid
$\overline{}$	\smallfrown	П	\shortparallel
<u></u>	\bumpeq	Ŏ	\between
≎	\Bumpeq	ф	\pitchfork
	\varpropto	Э	\backepsilon
	\blacktriangleleft	<b>•</b>	<b>\blacktriangleright</b>
∴.	\therefore	·.·	\because

Table 15: AMS negated relations (math mode)

* **\\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<pre>\nless \nleq \nleqslant \nleqq \lneq \lneqq \lvertneqq \lnsim \lnapprox \nprec \npreceq \precneqq</pre>	# #7*7 #7# * #V*V #V #V # # # # # # # # # # # # #	<pre>\ngtr \ngeq \ngeqslant \ngeqq \gneq \gneqq \gretneqq \gretneqq \gnsim \gnapprox \nsucc \nsucceq \succneqq</pre>
# <> <	\lneq	≠  >  >	\gneq
V#V*V	\lnsim	.^#^\$^:	\gvertneqq \gnsim
≉犬犬	\nprec \npreceq	<b>*</b> * * * * * * * * *	\nsucc \nsucceq
%X&X\\	<pre>\precneqq \precnsim \precnapprox</pre>	%Y&Y \\	\succneqq \succnsim \succnapprox
~ ∤ ∤	\nsim \nshortmid \nmid	¥ # ∦	<pre>\ncong \nshortparallel \nparallel</pre>
¥	\nvdash \nVdash	⊭	\nvDash \nVDash
A	<pre>\ntriangleleft \ntrianglelefteq \nsubseteq \nsubseteqq \subsetneq</pre>		<pre>\ntriangleright \ntrianglerighteq \nsupseteq \nsupseteqq \supsetneq</pre>
<b>₹₩₩₩</b>	\varsubsetneq \subsetneqq \varsubsetneqq	≠ P 0 ≠ 0 ≠	\varsupsetneq \supsetneqq \varsupsetneqq

Table 17: Delimiters (math mode)

(	(	)	)
ĺ	[	j	]
{	\{	}	\}
L	\lfloor		\rfloor
	\lceil	]	\rceil
<	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	$\rangle$	\rangle
/	/	\	\backslash
	\vert		\Vert
$\uparrow$	\uparrow	$\uparrow$	\Uparrow
$\downarrow$	\downarrow	$\Downarrow$	\Downarrow
$\uparrow$	\updownarrow	<b>\$</b>	\Updownarrow
Γ	\ulcorner	٦	\urcorner
L	\llcorner	_	\lrcorner

Table 16: Variable-sized symbols (math mode)

$\sum$	$\sum$	\sum	$\cap$	$\cap$	\bigcap
П	Π	\prod	Ü		\bigcup
П	Ϊ	\coprod		Ŭ	\bigsqcup
$\int$	$\int$	\int	V	$\bigvee$	\bigvee
∮	$\oint$	\oint	$\wedge$	$\land$	\bigwedge
$\odot$	Ó	\bigodot	$\otimes$	$\otimes$	\bigotimes
$\oplus$	$\oplus$	\bigoplus	+	$\overline{+}$	\biguplus

Table 18: Function names (math mode)

\arccos	\csc	\ker	\min
\arcsin	\deg	\lg	\Pr
\arctan	\det	\lim	\sec
\arg	\dim	\liminf	\sin
\cos	\exp	$\label{limsup}$	\sinh
\cosh	\gcd	\ln	\sup
\cot	$\hom$	\log	\tan
$\c$	$\inf$	\max	\tanh