

*vars, n, a, x, y, z, w, m, o*

*ivar, i, k, j, l*

*const, b*

$X, Y, Z$	$::=$		
		$I$	Unit
		$X \supseteq Y$	Associative Non-commutative tensor
		$Y \leftarrow X$	Implication
		$\mathsf{F} A$	Right adjoint
$A, B, C$	$::=$		
		$J$	Unit
		$A \triangleright B$	Non-associative Non-commutative tensor
		$A \multimap B$	Implication
		$\mathsf{G} X$	Right adjoint
$\Gamma$	$::=$		
		$\cdot$	
		$A$	
		$\Gamma_1, \Gamma_2$	
		$(\Gamma)$	
		$\Gamma$	
$\Delta$	$::=$		
		$\cdot$	
		$X$	
		$\Delta_1, \Delta_2$	
		$(\Delta)$	
		$\Delta$	

$\boxed{\Delta \vdash_{\mathcal{A}} X}$

$\overline{X \vdash_{\mathcal{A}} X}$	A_VAR
$\overline{\cdot \vdash_{\mathcal{A}} I}$	A_IR
$\frac{\Delta \vdash_{\mathcal{A}} X}{I, \Delta \vdash_{\mathcal{A}} X}$	A_IL
$\frac{\Delta_1 \vdash_{\mathcal{A}} X \quad \Delta_2 \vdash_{\mathcal{A}} Y}{\Delta_1, \Delta_2 \vdash_{\mathcal{A}} X \supseteq Y}$	A_TR
$\frac{X, Y \vdash_{\mathcal{A}} Z}{X \supseteq Y \vdash_{\mathcal{A}} Z}$	A_TL
$\frac{X, \Delta \vdash_{\mathcal{A}} Y}{\Delta \vdash_{\mathcal{A}} Y \leftarrow X}$	A_IRR
$\frac{\Delta_1 \vdash_{\mathcal{A}} X \quad \Delta_2, Y, \Delta_3 \vdash_{\mathcal{A}} Z}{\Delta_1, \Delta_2, Y \leftarrow X, \Delta_3 \vdash_{\mathcal{A}} Z}$	A_IRL
$\frac{\Delta_1 \vdash_{\mathcal{A}} X \quad \Delta_2, X, \Delta_3 \vdash_{\mathcal{A}} Y}{\Delta_1, \Delta_2, \Delta_3 \vdash_{\mathcal{A}} Y}$	A_CUT
$\frac{\Delta, X, Y \vdash_{\mathcal{A}} Z \quad \Delta \neq \emptyset}{\Delta, X \supseteq Y \vdash_{\mathcal{A}} Z}$	A ASSOCL

$$\frac{X, Y, \Delta \vdash_{\mathcal{A}} Z \quad \Delta \neq \emptyset}{X \supseteq Y, \Delta \vdash_{\mathcal{A}} Z} \text{ A\_ASSOCR}$$

$$\frac{\Delta; \cdot \vdash_{\mathcal{L}} A}{\Delta \vdash_{\mathcal{A}} \mathbf{F} A} \text{ A\_FR}$$

$$\boxed{\Delta; \Gamma \vdash_{\mathcal{L}} A}$$

$$\frac{}{\cdot; A \vdash_{\mathcal{L}} A} \text{ L\_VAR}$$

$$\frac{}{\cdot; \cdot \vdash_{\mathcal{L}} J} \text{ L\_JR}$$

$$\frac{\Delta; \Gamma \vdash_{\mathcal{L}} A}{\Delta; \Gamma, J \vdash_{\mathcal{L}} A} \text{ L\_JL}$$

$$\frac{\Delta; \Gamma \vdash_{\mathcal{L}} A}{I, \Delta; \Gamma \vdash_{\mathcal{L}} A} \text{ L\_IL}$$

$$\frac{\Delta_1; \Gamma_1 \vdash_{\mathcal{L}} A \quad \Delta_2; \Gamma_2 \vdash_{\mathcal{L}} B}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2 \vdash_{\mathcal{L}} A \triangleright B} \text{ L\_TR}$$

$$\frac{\Delta; A, B \vdash_{\mathcal{L}} C}{\Delta; A \triangleright B \vdash_{\mathcal{L}} C} \text{ L\_TL}$$

$$\frac{X, Y; \Gamma \vdash_{\mathcal{L}} C}{X \supseteq Y; \Gamma \vdash_{\mathcal{L}} C} \text{ L\_ATL}$$

$$\frac{\Delta, X, Y; \Gamma \vdash_{\mathcal{L}} A \quad \Delta \neq \emptyset}{\Delta, X \supseteq Y; \Gamma \vdash_{\mathcal{L}} A} \text{ L\_ASSOCL}$$

$$\frac{X, Y, \Delta; \Gamma \vdash_{\mathcal{L}} A \quad \Delta \neq \emptyset}{X \supseteq Y, \Delta; \Gamma \vdash_{\mathcal{L}} A} \text{ L\_ASSOCR}$$

$$\frac{\Delta; \Gamma, A \vdash_{\mathcal{L}} B}{\Delta; \Gamma \vdash_{\mathcal{L}} A \multimap B} \text{ L\_IRR}$$

$$\frac{\Delta_1; \Gamma_1 \vdash_{\mathcal{L}} A \quad \Delta_2; \Gamma_2, B, \Gamma_3 \vdash_{\mathcal{L}} C}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2, A \multimap B, \Gamma_3 \vdash_{\mathcal{L}} C} \text{ L\_IRL}$$

$$\frac{\Delta_1 \vdash_{\mathcal{A}} X \quad \Delta_2, Y, \Delta_3; \Gamma \vdash_{\mathcal{L}} A}{\Delta_1, Y \leftarrow X, \Delta_2, \Delta_3; \Gamma \vdash_{\mathcal{L}} A} \text{ L\_AIRL}$$

$$\frac{\Delta_1 \vdash_{\mathcal{A}} X \quad \Delta_2, X, \Delta_3; \Gamma \vdash_{\mathcal{L}} A}{\Delta_1, \Delta_2, \Delta_3; \Gamma \vdash_{\mathcal{L}} A} \text{ L\_ACUT}$$

$$\frac{\Delta_1; \Gamma_1 \vdash_{\mathcal{L}} A \quad \Delta_2; \Gamma_2, A, \Gamma_3 \vdash_{\mathcal{L}} B}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2, \Gamma_3 \vdash_{\mathcal{L}} B} \text{ L\_CUT}$$

$$\frac{\Delta \vdash_{\mathcal{A}} X}{\Delta; \cdot \vdash_{\mathcal{L}} \mathbf{G} X} \text{ L\_GR}$$

$$\frac{X, \Delta; \Gamma \vdash_{\mathcal{L}} A}{\Delta; \Gamma, \mathbf{G} X \vdash_{\mathcal{L}} A} \text{ L\_GL}$$

$$\frac{\Delta; \Gamma, A \vdash_{\mathcal{L}} B}{\mathbf{F} A, \Delta; \Gamma \vdash_{\mathcal{L}} B} \text{ L\_FL}$$

Definition rules: 28 good 0 bad  
Definition rule clauses: 52 good 0 bad