CF - congr - meta

$M^{\{x:A\}\mho}$

$\tau = [t_1/x_1, \ldots, t_n/x_n]$

$\tau^{(i)} = [t_1/x_i, \ldots, t_{i-1}/x_{i-1}]$

(*) $\quad \vdash t_i : A_i \tau^{(i)}$

(+) $\quad \vdash s_i : A_i \sigma^{(i)}$

$\quad \vdash u_i : A_i \tau^{(i)} \qquad \lfloor u_i \rfloor = \lfloor s_i \rfloor$

$\dfrac{\vdash t_i \equiv u_i : A_i \tau^{(i)} \quad \text{by } \alpha_i}{\vdash (\varrho, \tau) \boxed{M(\vec{t}) \equiv M(\vec{s}) \text{ by } \{\alpha_1, \ldots, \alpha_n\}}}$

$\theta_j \Gamma \vdash t''_j : A_j [\cdots]$

$\dfrac{\vdash a^{A'} : B}{A \equiv B} \qquad \text{where} \quad \lfloor A \rfloor = \lfloor B \rfloor$

$$(\star) \qquad \vdash t_i : A_i \tau^{(i)}$$

$$(+) \qquad \vdash s_i : A_i \sigma^{(i)}$$

$$\vdash u_i : A_i \tau^{(i)} \qquad \lfloor u_i \rfloor = \lfloor s_i \rfloor$$

$$\vdash t_i \equiv u_i : A_i \tau^{(i)} \quad \text{by } \alpha_i$$

$$\tau = [t_1/x_1, \ldots, t_n/x_n]$$

$$\tau^{(i)} = [t_1/x_1, \ldots, t_{i-1}/x_{i-1}]$$

$$\overline{\vdash (\theta \tau) \; \boxed{M(\vec{t}) \equiv M(\vec{s}) \; \text{by } \{\alpha_1, \ldots, \alpha_n\}}}$$

TT-Meta-Congr

$$(\star) \quad \Theta; \Gamma \vdash t'_j : A_j[t'_1/x_1, \ldots, t'_{j-1}/x_{j-1}] \quad \text{for } j = 1, \ldots, m$$

$$(+) \quad \Theta; \Gamma \vdash t''_j : A_j[t''_1/x_1, \ldots, t''_{j-1}/x_{j-1}] \quad \text{for } j = 1, \ldots, m$$

$$(\heartsuit) \quad \Theta; \Gamma \vdash t'_j \equiv t''_j : A_j[t'_1/x_1, \ldots, t'_{j-1}/x_{j-1}] \quad \text{for } j = 1, \ldots, m$$

$$\overline{\Theta; \Gamma \vdash (6[t'_1/x_1, \ldots, t'_m/x_m]) \boxed{M(t'_1, \ldots, t'_m) \equiv M(t''_1, \ldots, t''_m)}}$$

$$\vdash t_i : D_i \tau^{(i)} \qquad \lfloor A_i \rfloor \equiv \lfloor D_i \tau^{(i)} \rfloor$$

$$\vdash s_i : D_i \sigma^{(i)} \qquad \lfloor B_i \rfloor \equiv \lfloor D_i \sigma^{(i)} \rfloor$$

$$\lfloor u_i \rfloor = \lfloor t_i \rfloor$$

$$\lfloor v_i \rfloor = \lfloor s_i \rfloor$$

$$\lfloor C_i \rfloor \equiv \lfloor D_i \tau^{(i)} \rfloor$$

$$\vdash t_i \equiv s_i : D_i \tau^{(i)} \qquad \text{by } \alpha_i$$

$$\vdash (\theta \tau)(M(\vec{s}))$$

$$\overline{\vdash (\theta \tau) [M(\vec{t}) \equiv M(\vec{s}) \; \text{by } \vec{\alpha}]}$$

$\hookrightarrow$ missing convert ?

$$M^{\{\vec{x} : \vec{D}\} \theta}$$

$$\tau = [t_1/x_1, \ldots, t_n/x_n]$$

$$t_1 \equiv s_1 : A_1 \quad \text{by } () \longrightarrow \alpha_1$$

$$t_2 \equiv (s_2 \; A[s_1/x]) \; \text{by} \; (^t) : A[t_1/x_1] \longrightarrow \alpha_2$$

$$A[t_1/x_1] \equiv A[s_1/x_1] \; \text{by } p_1$$