Schutz

4.6. $T^{00} = \frac{E}{V} = \rho_{MCRT}$. $\rho \to \gamma^2 \rho$.

$T^{0\bar{i}}$ = energy flux across $x^{\bar{i}}$ surface

$= nmU^0 U^{\bar{i}}$

$= \rho U^0 \vec{U}$

$T^{\bar{i}0}$ = momentum density.

$= \frac{N}{V} \vec{p} = \frac{N m \vec{U}}{V} = nm\vec{U}$

$= \frac{N}{V} m\vec{U} = nm\vec{U} \to nm\gamma\vec{U}\gamma$

$= \rho U^0 \vec{U}$.

$T^{\bar{i}\bar{j}}$ = momentum flux across $x^{\bar{j}}$ surface

$= \frac{N}{V} m U^{\bar{i}} U^{\bar{j}} = nm U^{\bar{i}} U^{\bar{j}}$

$= \rho U^{\bar{i}} U^{\bar{j}}$.