

$$s_v = 2p - e = \frac{\overbrace{1 + v\check{v}}^{-1} \overbrace{1 - v\check{v}}^{-1}}{2\check{v} \overbrace{1 + v\check{v}}^{-1}} \Big| \frac{\overbrace{21 + v\check{v}v}^{-1}}{\overbrace{1 + \check{v}v}^{-1} \overbrace{\check{v}v - 1}^{-1}}$$

$${}_u\mathcal{L} = \frac{e + s_v}{2} = \frac{\overbrace{1 + v\check{v}}^{-1}}{\check{v} \overbrace{1 + v\check{v}}^{-1}} \Big| \frac{\overbrace{1 + v\check{v}v}^{-1}}{\check{v} \overbrace{1 + \check{v}v}^{-1}} = \frac{\overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \overbrace{1 + v\check{v}}^{-1}}{\check{v} \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \check{v} \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \check{v} \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \check{v} \overbrace{1 + v\check{v}}^{-1}} = \frac{\overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \overbrace{1 + v\check{v}}^{-1}}{\check{v} \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \check{v} \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \check{v} \overbrace{1 + v\check{v}}^{-1} \quad \quad \quad \check{v} \overbrace{1 + v\check{v}}^{-1}}$$

$${}_w\mathcal{L} = \frac{e - s_v}{2} = \frac{\overbrace{v \overbrace{1 + \check{v}v}^{-1} \check{v}}^{-1}}{-\check{v} \overbrace{1 + v\check{v}}^{-1}} \Big| \frac{\overbrace{-1 + v\check{v}v}^{-1}}{\overbrace{1 + \check{v}v}^{-1}}$$

$$v = \frac{0}{\check{v}} \Big| \frac{v}{0}$$

$$2c - e + v = \frac{1}{\check{v}} \Big| \frac{v}{-1}$$

$$e + v^2 = \frac{1 + v\check{v}}{0} \Big| \frac{0}{1 + \check{v}v}$$

$$\underline{2c - e + v} \frac{\overbrace{-1/2}}{\overbrace{e + v^2}} = \frac{1}{\check{v}} \Big| \frac{v}{-1} \frac{\overbrace{-1/2}}{\overbrace{1 + v\check{v}}} \Big| \frac{0}{\overbrace{1 + \check{v}v}^{-1/2}} = \frac{\overbrace{-1/2}}{\overbrace{1 + v\check{v}}} \Big| \frac{\overbrace{-1/2}}{\overbrace{v \overbrace{1 + \check{v}v}}^{-1/2}} \Big| \frac{\overbrace{-1/2}}{\check{v} \overbrace{1 + v\check{v}}} \Big| \frac{\overbrace{-1/2}}{-\overbrace{1 + \check{v}v}}$$

$$\frac{\overbrace{-1/2}}{\overbrace{1 + v\check{v}}} \Big| \frac{0}{\overbrace{1 + \check{v}v}^{-1/2}} \frac{1}{\check{v}} \Big| \frac{v}{\check{v}v} \frac{\overbrace{-1/2}}{\overbrace{1 + v\check{v}}} \Big| \frac{0}{\overbrace{1 + \check{v}v}^{-1/2}} = \frac{\overbrace{-1}}{\overbrace{1 + v\check{v}}} \Big| \frac{\overbrace{-1}}{\overbrace{1 + v\check{v}v}} \in \Pi$$

$$\underline{2c - e + 2v + 2vcv - v^2} \frac{\overbrace{-1}}{\overbrace{e + v^2}} = \frac{1 - v\check{v}}{2\check{v}} \Big| \frac{2v}{\check{v}v - 1} \frac{\overbrace{-1}}{\overbrace{1 + v\check{v}}} \Big| \frac{0}{\overbrace{1 + \check{v}v}^{-1}} = \frac{\overbrace{1 - v\check{v}}^{-1} \overbrace{1 + v\check{v}}^{-1}}{2\check{v} \overbrace{1 + v\check{v}}^{-1}} \Big| \frac{\overbrace{-1}}{\overbrace{\check{v}v - 1}^{-1} \overbrace{1 + \check{v}v}^{-1}}$$

$$s_v = 2p - e = \frac{\overbrace{1 + v\check{v}}^{-1} \overbrace{1 - v\check{v}}^{-1}}{2\check{v} \overbrace{1 + v\check{v}}^{-1}} \Big| \frac{\overbrace{21 + v\check{v}v}^{-1}}{\overbrace{1 + \check{v}v}^{-1} \overbrace{\check{v}v - 1}^{-1}}$$

$$\frac{u}{0} \Big| \frac{0}{w} \ell_v = \frac{u}{0} \Big| \frac{0}{w} P_{2c - e + v} P_{e + v^2}^{-1/2} = \frac{\overbrace{-1/2}}{\overbrace{1 + v\check{v}}} \overbrace{u + vw\check{v}}^{-1/2} \overbrace{1 + v\check{v}}^{-1/2} \Big| \frac{\overbrace{-1/2}}{\overbrace{1 + v\check{v}}} \overbrace{uw - vw}^{-1/2} \overbrace{1 + \check{v}v}^{-1/2}}{\overbrace{-1/2}} \overbrace{1 + \check{v}v}^{-1/2} \overbrace{\check{v}uv + w}^{-1/2} \overbrace{1 + \check{v}v}^{-1/2}}$$

$$X_v^1 \ni \frac{u}{\overset{*}{v}u} \left| \frac{uv}{\overset{*}{v}uv} \right. = \frac{1}{\overset{*}{v}} \left| \frac{v}{0} \right. \frac{u}{0} \left| \frac{0}{0} \right. \frac{1}{\overset{*}{v}} \left| \frac{v}{0} \right. = X_c^1 P_{c+v}$$

$$\begin{aligned} & \frac{u}{\overset{*}{v}u} \left| \frac{uv}{\overset{*}{v}uv} \right. \frac{\eta}{\overset{*}{v}\eta} \left| \frac{\eta v}{\overset{*}{v}\eta v} \right. + \frac{\eta}{\overset{*}{v}\eta} \left| \frac{\eta v}{\overset{*}{v}\eta v} \right. \frac{u}{\overset{*}{v}u} \left| \frac{uv}{\overset{*}{v}uv} \right. \\ &= \frac{u \underline{1+v\overset{*}{v}\eta} + \eta \underline{1+v\overset{*}{v}u}}{\overset{*}{v}u \underline{1+v\overset{*}{v}\eta} + \overset{*}{v}\eta \underline{1+v\overset{*}{v}u}} \left| \frac{u \underline{1+v\overset{*}{v}\eta v} + \eta \underline{1+v\overset{*}{v}uv}}{\overset{*}{v}u \underline{1+v\overset{*}{v}\eta v} + \overset{*}{v}\eta \underline{1+v\overset{*}{v}uv}} \right. = 2 \frac{u}{\overset{*}{v}u} \left| \frac{uv}{\overset{*}{\xi}_j \overset{*}{v}uv} \right. \end{aligned}$$

$$X_v^0 \ni \frac{vw\overset{*}{v}}{-w\overset{*}{v}} \left| \frac{-vw}{w} \right. = \frac{0}{\overset{*}{v}} \left| \frac{v}{-1} \right. \frac{0}{0} \left| \frac{0}{w} \right. \frac{0}{\overset{*}{v}} \left| \frac{v}{-1} \right. = X_c^0 P_{v+c-e}$$

$$\frac{vw\overset{*}{v}}{-w\overset{*}{v}} \left| \frac{-vw}{w} \right. \frac{\eta}{\overset{*}{v}\eta} \left| \frac{\eta v}{\overset{*}{v}\eta v} \right. + \frac{\eta}{\overset{*}{v}\eta} \left| \frac{\eta v}{\overset{*}{v}\eta v} \right. \frac{vw\overset{*}{v}}{-w\overset{*}{v}} \left| \frac{-vw}{w} \right. = 0$$

$$\varphi \left(\frac{i u_j}{k \overset{*}{v}_j} \left| \frac{i v_\ell}{k w_\ell} \right. \right)$$

$$\frac{1}{0} \left| \frac{0}{0} \right. \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. - \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. \frac{1}{0} \left| \frac{0}{0} \right. = R \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. - L \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right.$$

$$\begin{aligned} \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. \text{ LHS} &= \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. \frac{1}{0} \left| \frac{0}{0} \right. \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. + \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. \frac{1}{0} \left| \frac{0}{0} \right. \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. - \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. \frac{1}{0} \left| \frac{0}{0} \right. - \frac{1}{0} \left| \frac{0}{0} \right. \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. \\ &= \frac{-v\overset{*}{v} - v\overset{*}{v}}{\overset{*}{v}u - w\overset{*}{v}} \left| \frac{uv - vw}{\overset{*}{v}v + \overset{*}{v}v} \right. = \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. - \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. = \frac{u}{\overset{*}{v}} \left| \frac{v}{w} \right. \text{ RHS} \end{aligned}$$

$$\exp \left(\frac{1}{0} \left| \frac{0}{0} \right. \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. - \frac{0}{\overset{*}{v}} \left| \frac{v}{0} \right. \frac{1}{0} \left| \frac{0}{0} \right. \right) = \exp R \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. \overbrace{\exp L}^{-1} \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. = R \exp \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. \overbrace{L}^{-1} \exp \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right.$$

$$\exp \frac{0}{-\overset{*}{v}} \left| \frac{v}{0} \right. = \frac{v\overset{*}{v} \mathbf{c}}{-\overset{*}{v}v \mathbf{s} \overset{*}{v}} \left| \frac{v\overset{*}{v} \mathbf{s} v}{\overset{*}{v}v \mathbf{c}} \right. = \frac{v\overset{*}{v} \mathbf{c}}{-\overset{*}{v}v \mathbf{s}} \left| \frac{v\overset{*}{v} \mathbf{s}}{\overset{*}{v}v \mathbf{c}} \right.$$