$$u = a_1 + a_2x + a_3y + a_4xy + a_5x^2 + a_6y^2 + a_7x^2y + a_8xy^2 + a_9x^2y^2 + z(a_{10} + \cdots + a_{14}x^2 + a_{15}y^2 + a_{16}x^2y + a_{17}xy^2 + a_{18}x^2y^2)$$

$$v = b_1 + \cdots + b_7x^2y + b_8xy^2 + b_9x^2y^2 + z(b_{10} \cdots + b_{16}x^2y + b_{17}xy^2 + b_{18}x^2y^2)$$

$$w = c_1 + \cdots + c_7x^2y + c_8xy^2 + c_9x^2y^2 + z(c_{10} + \cdots + c_{16}x^2y + c_{17}xy^2 + c_{18}x^2y^2)$$

$$\varepsilon_{xx} = \frac{\partial u}{\partial x} = \varepsilon_{xx}^{L} + a_8y^2 + \underline{2a_9xy^2} + a_{17}y^2z + \underline{2a_{18}xy^2z}$$

$$\varepsilon_{yy} = \frac{\partial v}{\partial y} = \varepsilon_{yy}^{L} + b_7x^2 + \underline{2b_9x^2y} + b_{16}x^2z + \underline{2b_{18}x^2yz}$$

$$\varepsilon_{zz} = \frac{\partial w}{\partial z} = \varepsilon_{zz}^{L} + c_{14}x^2 + c_{15}y^2 + c_{16}x^2y + c_{17}xy^2 + c_{18}x^2y^2$$

$$\varepsilon_{xy} = \frac{\partial u}{\partial y} + \frac{\partial v}{\partial x} = \varepsilon_{xy}^{L} + a_7x^2 + 2a_9x^2y + z(a_{16}x^2 + 2a_{18}x^2y) + b_8y^2 + 2b_9xy^2 + z(b_{17}y^2 + 2b_{18}xy^2)$$

$$\varepsilon_{yz} = \frac{\partial v}{\partial z} + \frac{\partial w}{\partial y}$$

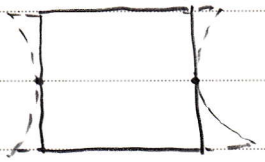
$$= \varepsilon_{yz}^{L} + b_{14}x^2 + b_{15}y^2 + b_{16}x^2y + b_{17}xy^2 + b_{18}x^2y^2 + c_7x^2 + 2c_9x^2y + z(c_{16}x^2 + 2c_{18}x^2y)$$

$$\varepsilon_{zx} = \frac{\partial u}{\partial z} + \frac{\partial w}{\partial x}$$

$$= \varepsilon_{zx}^{L} + a_{14}x^2 + a_{15}y^2 + a_{16}x^2y + a_{17}xy^2 + a_{18}x^2y^2 + c_8y^2 + 2c_9xy^2 + z(c_{17}y^2 + 2c_{18}xy^2)$$

incompatible mode

ε_{xx}

- $u = a_8xy^2$:  incompatible
- $u = a_{17}xy^2z$

ε_{yy}

- $v = b_7x^2y$
- $v = b_{16}x^2y \cdot z$

ε_{yz}

- $b_{14}x^2z$: $\varepsilon_{xy}^{L}\left(\frac{\partial v}{\partial x}\right)$, $b_{15}y^2z$: $\varepsilon_{yy}^{L}\left(\frac{\partial v}{\partial y}\right)$
- b_{16} : incom. , $b_{17}xy^2z$: $\varepsilon_{yy}^{L}\left(\frac{\partial v}{\partial y}\right)$
- b_{18} : ε_{yy}^{H} , c_7x^2y : ε_{xz}^{L}
- $c_{16}x^2yz$: ε_{xz}^{L}

ε_{xz}

- $a_{14}x^2z : \varepsilon_{xx}^{L}$, $a_{15}y^2z : \varepsilon_{xy}^{L}$
- $a_{16}x^2y\cdot z : \varepsilon_{xx}^{L}$, $a_{17}xy^2z$: incomp.
- $a_{18}x^2y^2z : \varepsilon_{xx}^{H}$, $c_8 xy^2 : \varepsilon_{yz}^{L}$
- $c_{17}xy^2\cdot z : \varepsilon_{yz}^{L}$

ε_{xy}

- $a_7 x^2y : \varepsilon_{xx}^{L}$, $a_9 x^2y^2 : \varepsilon_{xx}^{H}$
- $a_{16}x^2y\,z : \varepsilon_{xx}^{L}$, $a_{18}x^2y^2z : \varepsilon_{xx}^{H}$
- $b_8 xy^2 : \varepsilon_{yy}^{L}$, $b_9 x^2y^2 : \varepsilon_{yy}^{H}$
- $b_{17}xy^2\cdot z : \varepsilon_{yy}^{L}$, $b_{18}x^2y^2\cdot z : \varepsilon_{yy}^{H}$

ε_{zz}

- $c_{14}x^2z : \varepsilon_{xz}^{L}$, $c_{15}y^2\cdot z : \varepsilon_{yz}^{L}$
- $c_{16}x^2y\cdot z : \varepsilon_{xz}^{L}$, $c_{17}xy^2\cdot z : \varepsilon_{yz}^{L}$
- $c_{18}x^2y^2\cdot z : \varepsilon_{yz}^{H}, \varepsilon_{xz}^{H}$