$$\left(\frac{\partial v}{\partial b}\right)_c = -\frac{1}{\varrho^2}\left(\frac{\partial \varrho}{\partial b}\right)_c$$

$$\left(\frac{\partial \varrho}{\partial b}\right)_c = -\frac{1}{v^2}\left(\frac{\partial v}{\partial b}\right)_c$$

$$\left(\frac{\partial a}{\partial v}\right)_c = -\varrho^2\left(\frac{\partial a}{\partial \varrho}\right)_c$$

$$\left(\frac{\partial a}{\partial \varrho}\right)_c = -v^2\left(\frac{\partial a}{\partial v}\right)_c$$

$$\left(\frac{\partial^2 v}{\partial b^2}\right)_c = ??$$

$$\left(\frac{\partial^2 \varrho}{\partial b^2}\right)_c = ??$$

$$\left(\frac{\partial^2 a}{\partial v^2}\right)_c = \frac{\varrho^3}{2}\left(\frac{\partial a}{\partial \varrho}\right)_c + \varrho^4\left(\frac{\partial^2 a}{\partial \varrho^2}\right)_c$$

$$\left(\frac{\partial^2 a}{\partial \varrho^2}\right)_c = \frac{v^3}{2}\left(\frac{\partial a}{\partial v}\right)_c + v^4\left(\frac{\partial^2 a}{\partial v^2}\right)_c$$