Deformation Term: \( 2 \frac{\partial \bar{U}_x}{\partial x} \frac{\partial V_y}{\partial x} \)

For this term to be positive:

- \( \frac{\partial \bar{U}_x}{\partial x} = + \) \( \leftarrow \) Column avg. \( U \) increases in the x-dir.
  (maybe jet entrance)

- \( \frac{\partial V_y}{\partial x} = + \) \( \leftarrow \) \( Y \)-component of thermal wind increases in the x-dir.

One possible flow field that would make \( 2 \frac{\partial \bar{U}_x}{\partial x} \frac{\partial V_y}{\partial x} = - \)

\( \phi - \Delta \phi \) \( \leftarrow \) Upper level geopotential height contours
\( \phi + \Delta \phi \) \( \leftarrow \) Thickness contours

The anticyclone will move in the dir. of the column avg. Conv. which is in the dir of the column Vshear. Thickness from 1000-500 hPa

To evaluate the column avg. \( \bar{V}_a \) we take \( \mathbf{K} \times \left( \frac{\partial \bar{V}_{x}}{\partial x} \right) \)