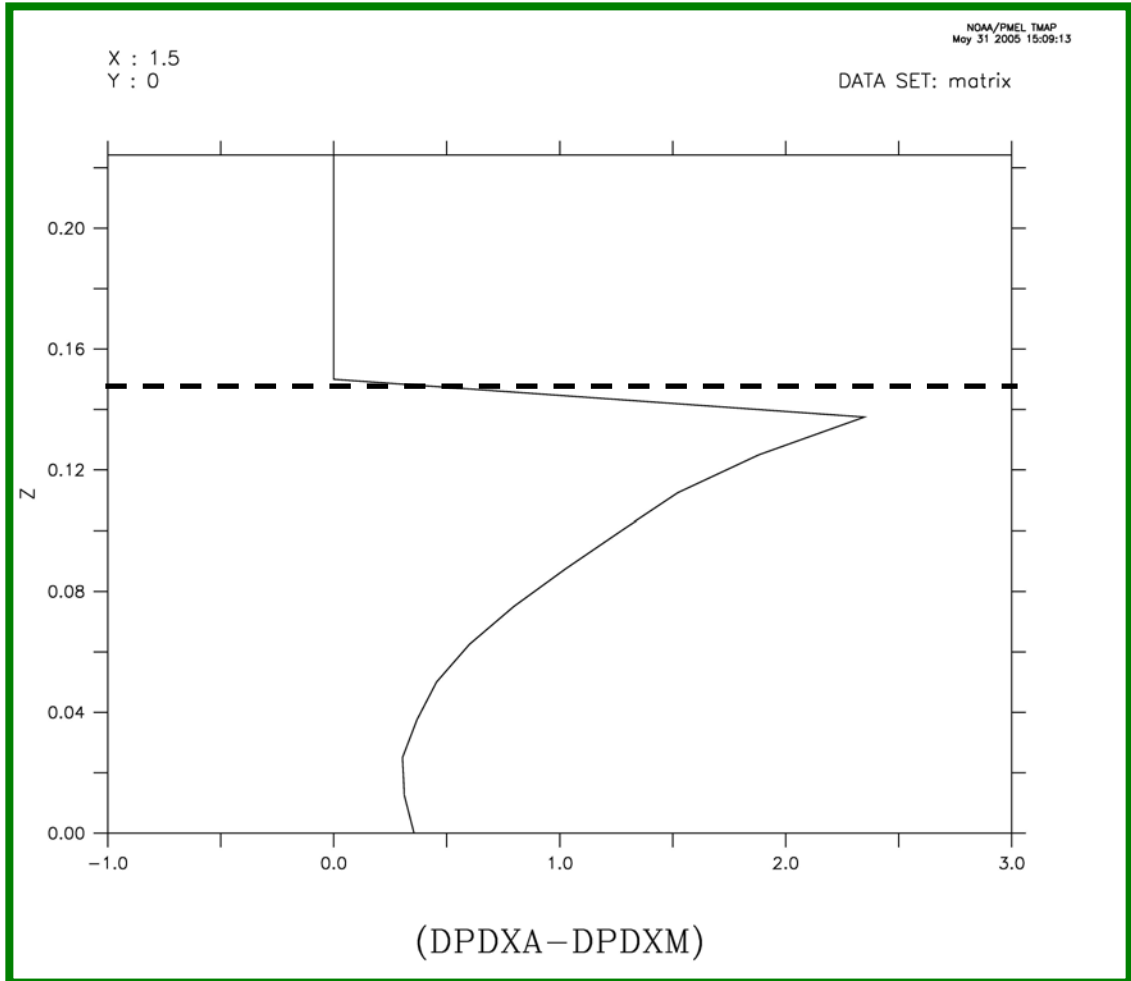


Drag force



$$\left\langle \frac{\partial \tilde{p}}{\partial x} \right\rangle = \left\langle \frac{\partial p}{\partial x} \right\rangle - \frac{\partial \langle p \rangle}{\partial x} = \left\langle \frac{\partial p}{\partial x} \right\rangle - \frac{\langle p \rangle|_{x=x_2} - \langle p \rangle|_{x=x_1}}{\Delta x}$$

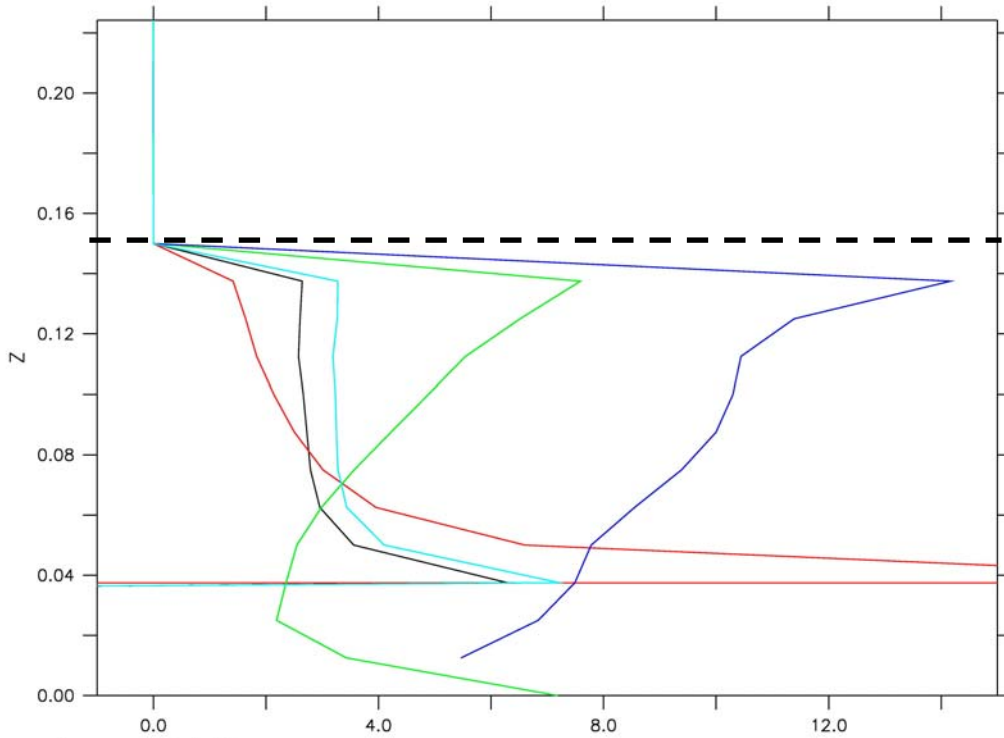
How to parameterize it?

Usually $\left\langle \frac{\partial \bar{p}}{\partial x} \right\rangle \propto -V|V|$ where V is a velocity scale

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X : 1.5
Y : 0

DATA SET: matrix



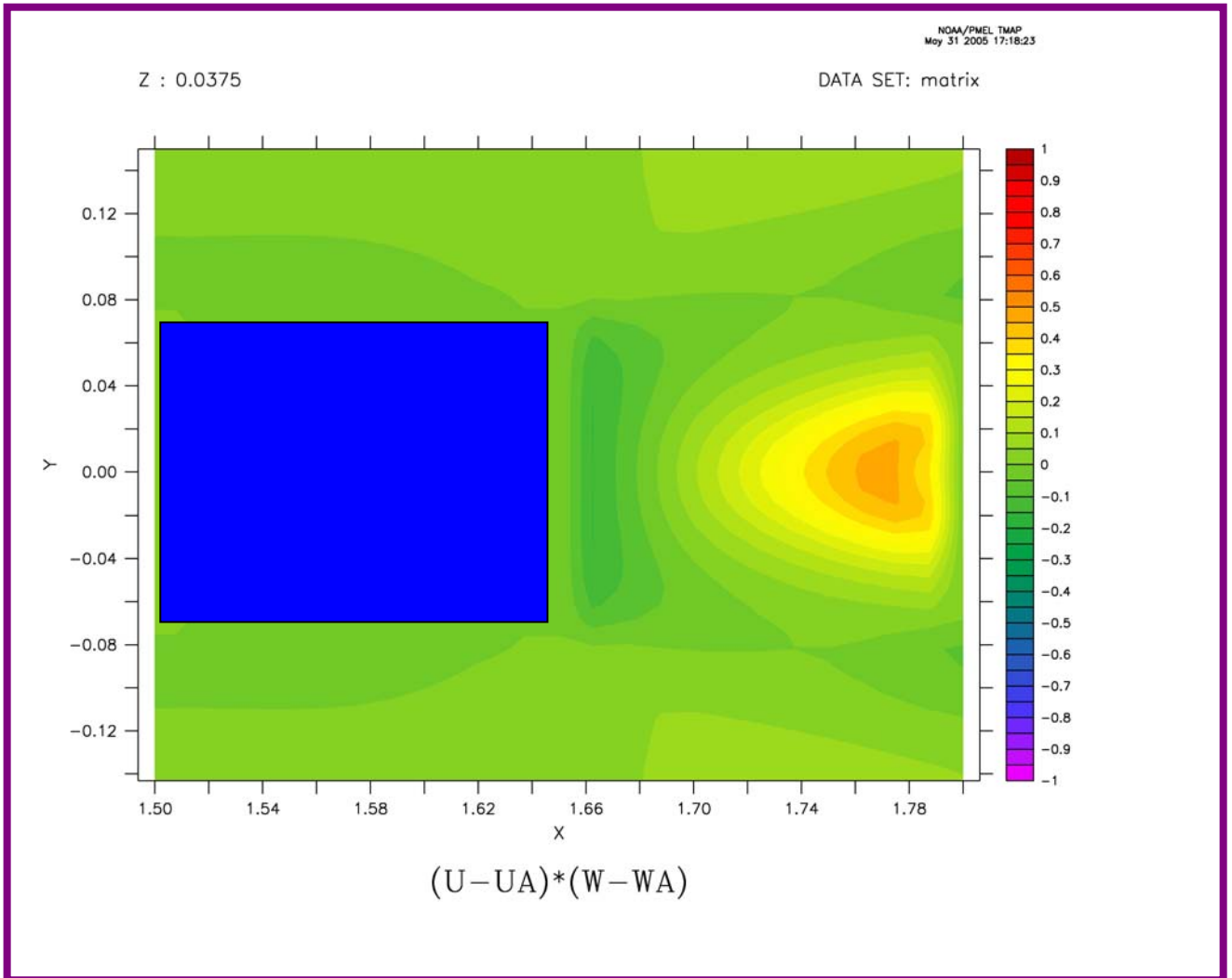
- (DPDXA - DPDXM) / ABS(UA) / UA
- (DPDXA - DPDXM) / TKEA
- (DPDXA - DPDXM) / TKEA2
- (DPDXA - DPDXM) / ((TKEA2 + TKEA) ~ .5) / UA

$$\frac{\left\langle \frac{\partial \bar{p}}{\partial x} \right\rangle}{U|U|} \quad \text{---} \quad \frac{\left\langle \frac{\partial \bar{p}}{\partial x} \right\rangle}{U \sqrt{tke_{Re\ y} + tke_{disp}}} \quad \text{---}$$

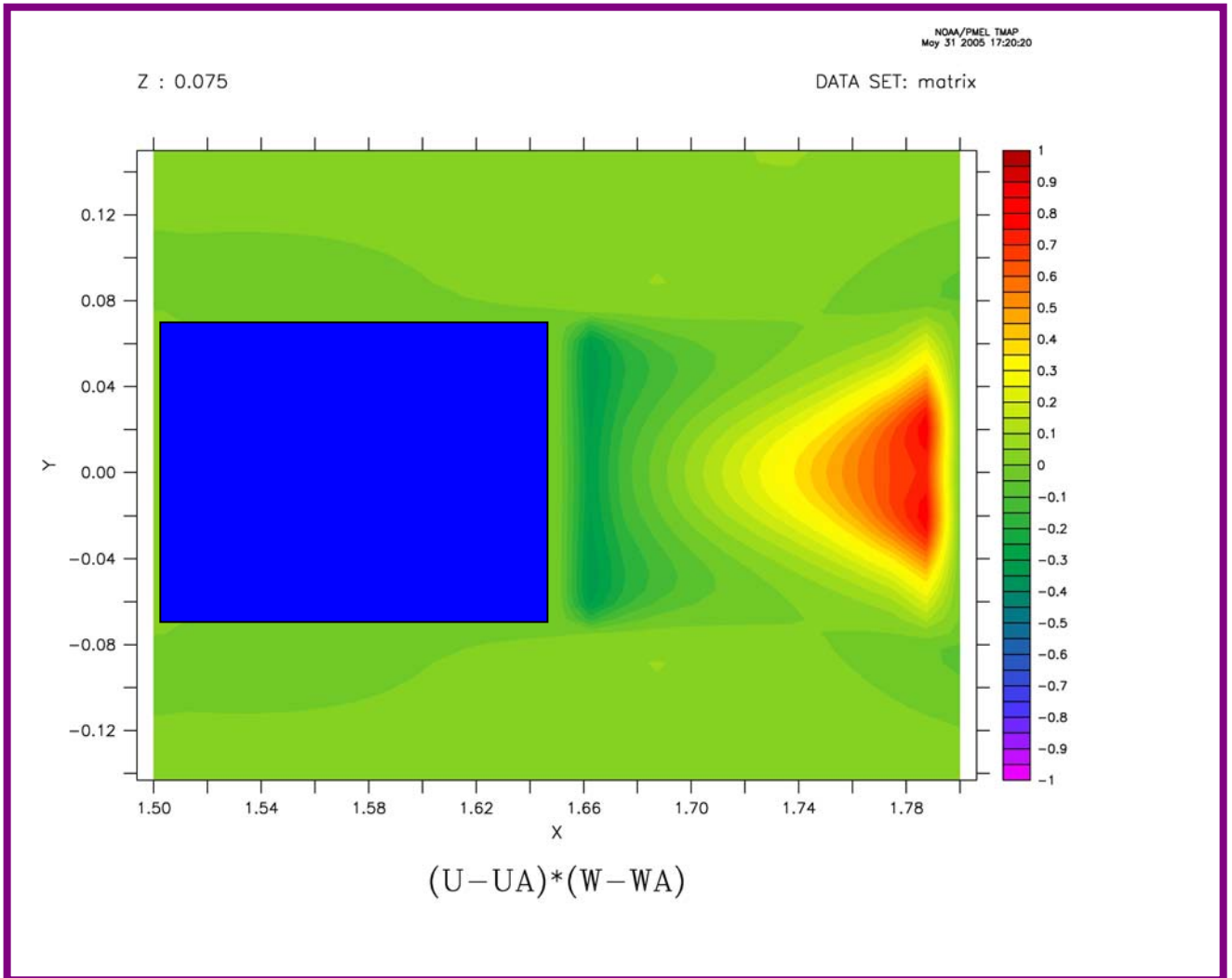
$$\frac{\left\langle \frac{\partial \bar{p}}{\partial x} \right\rangle}{tke_{Re\ y}} \quad \text{---} \quad \frac{\left\langle \frac{\partial \bar{p}}{\partial x} \right\rangle}{tke_{disp}} \quad \text{---}$$

$$\frac{\left\langle \frac{\partial \bar{p}}{\partial x} \right\rangle}{U \sqrt{tke_{Re\ y}}} \quad \text{---}$$

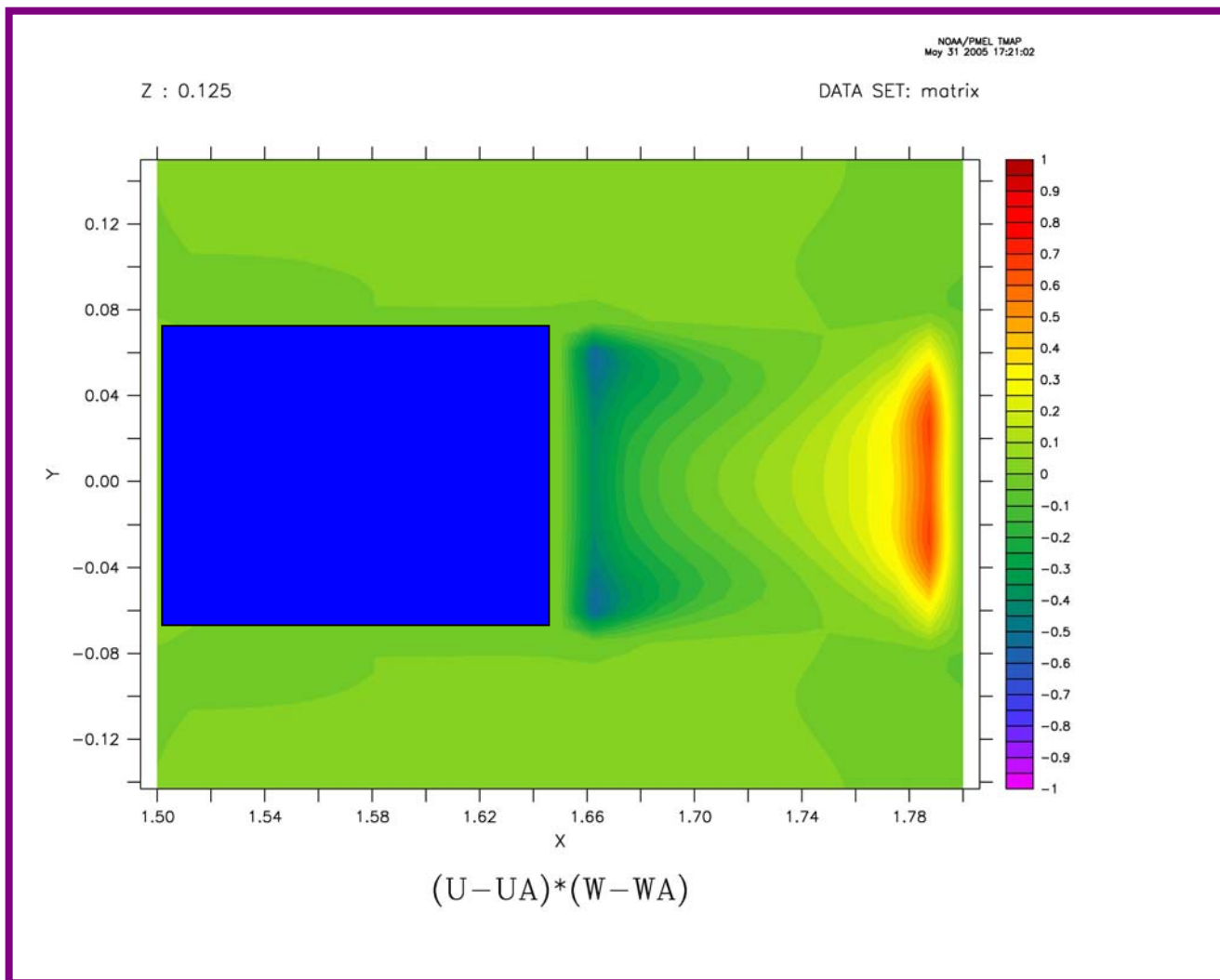
Dispersive stress at 0.25H



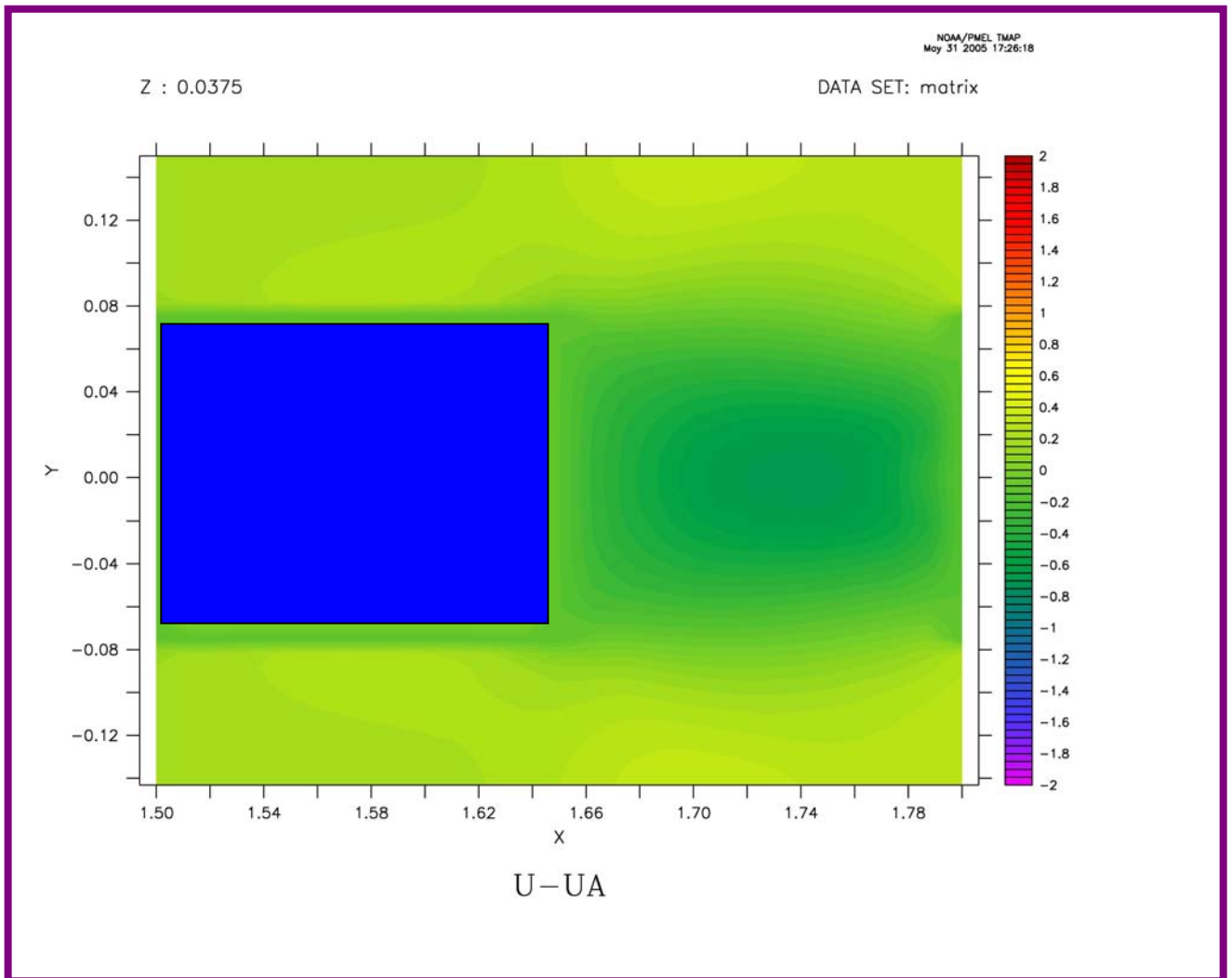
Dispersive stress at 0.5H



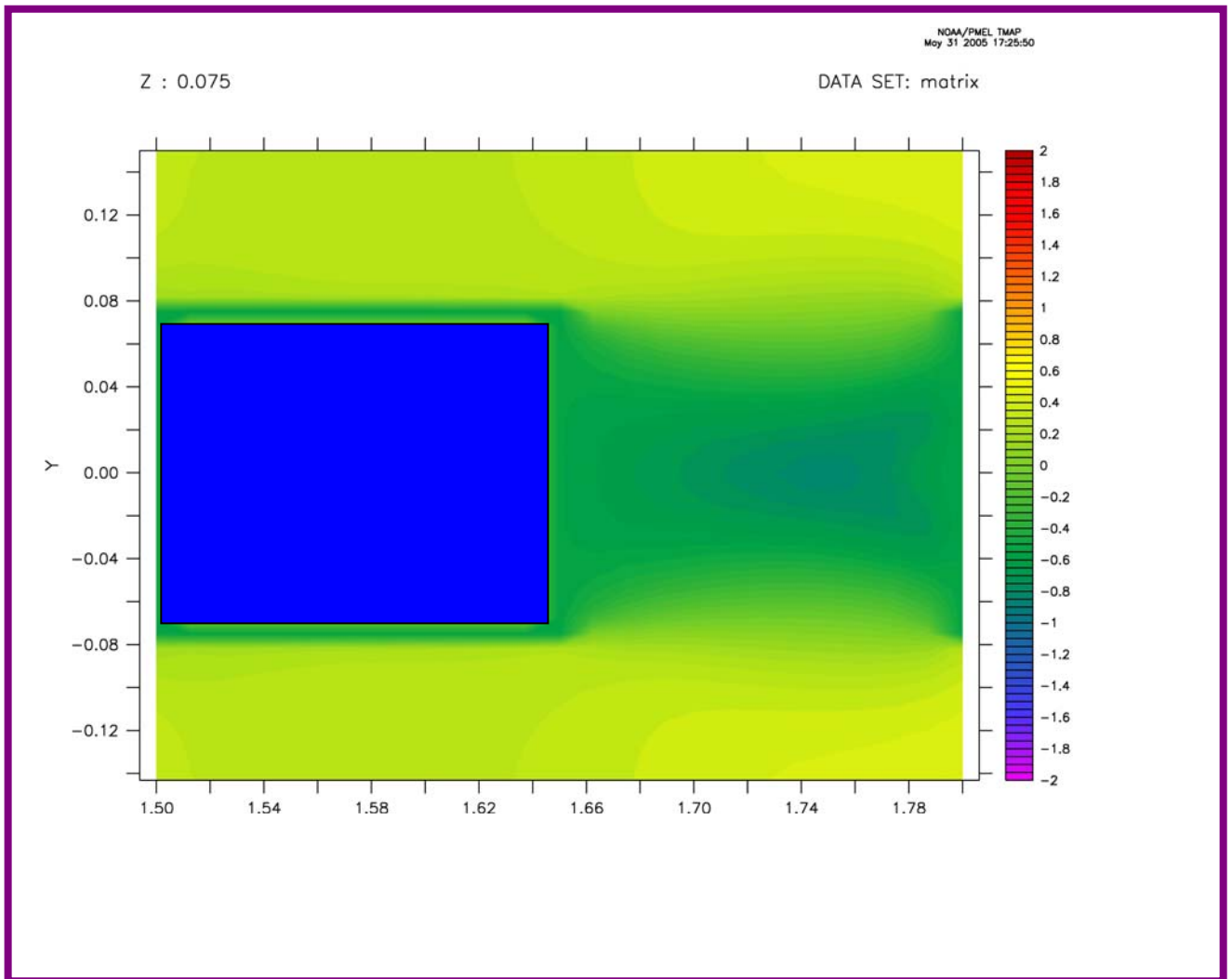
Dispersive stress at 0.75H



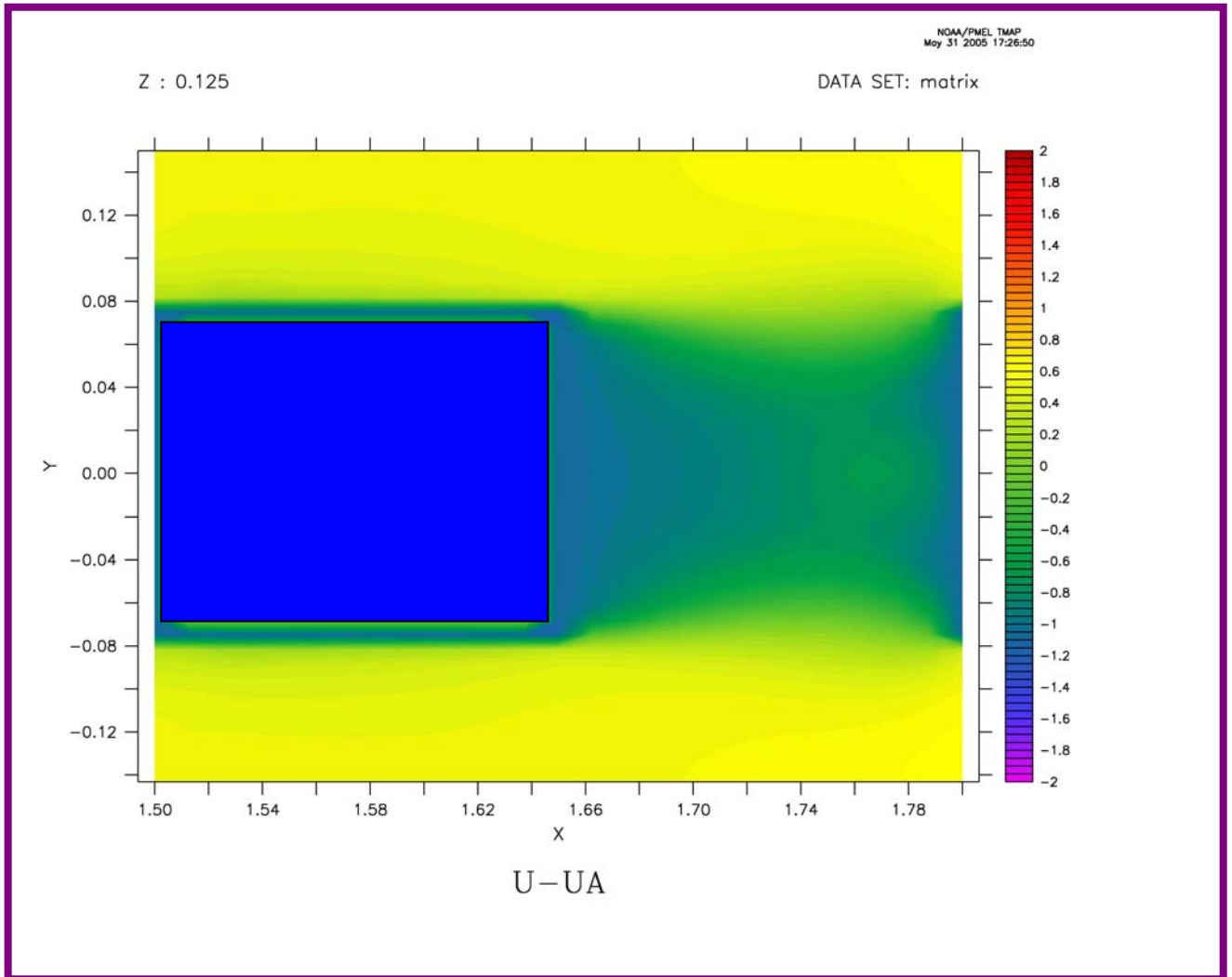
U-Uaverage at 0.25H



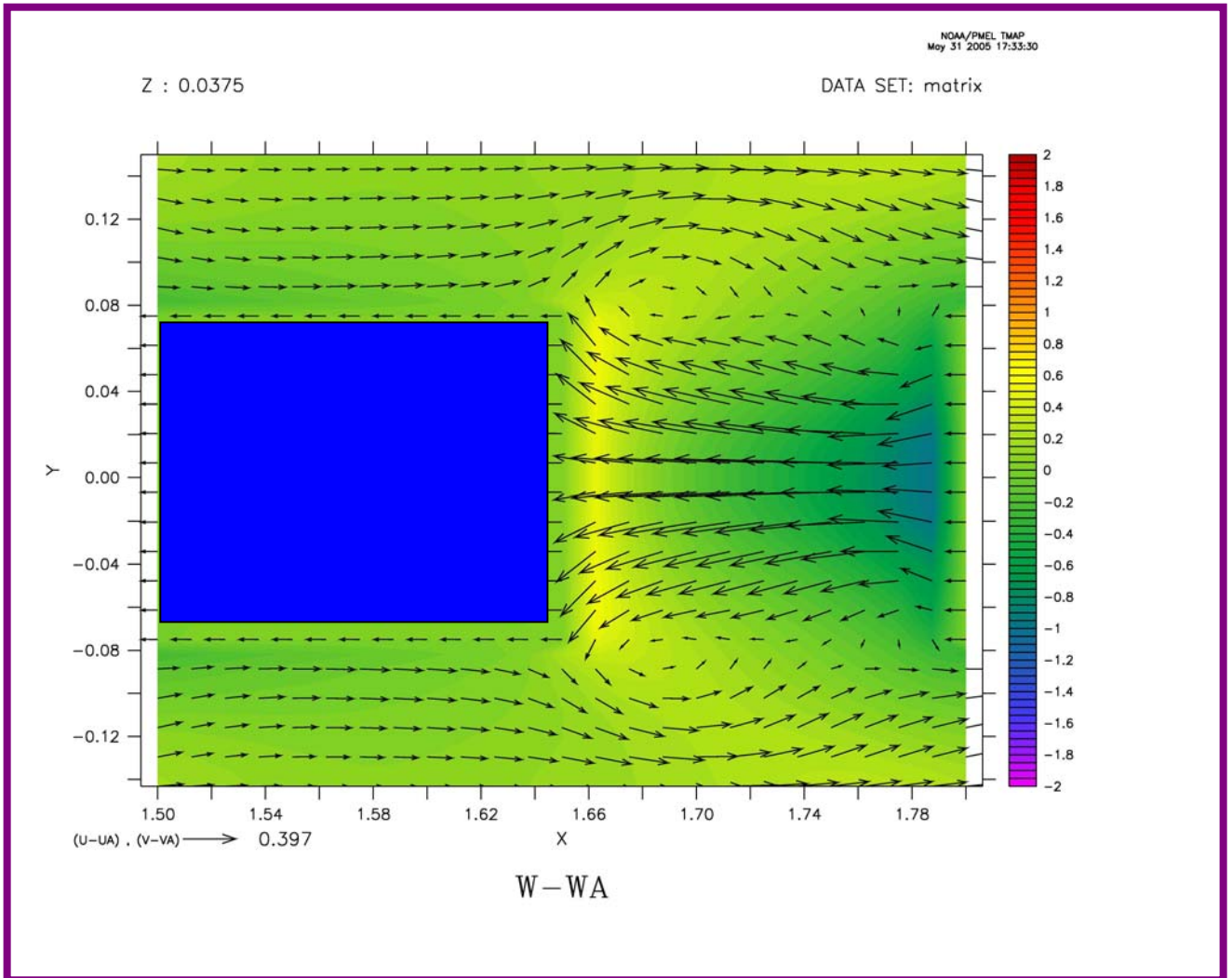
U-Uaverage at 0.5H



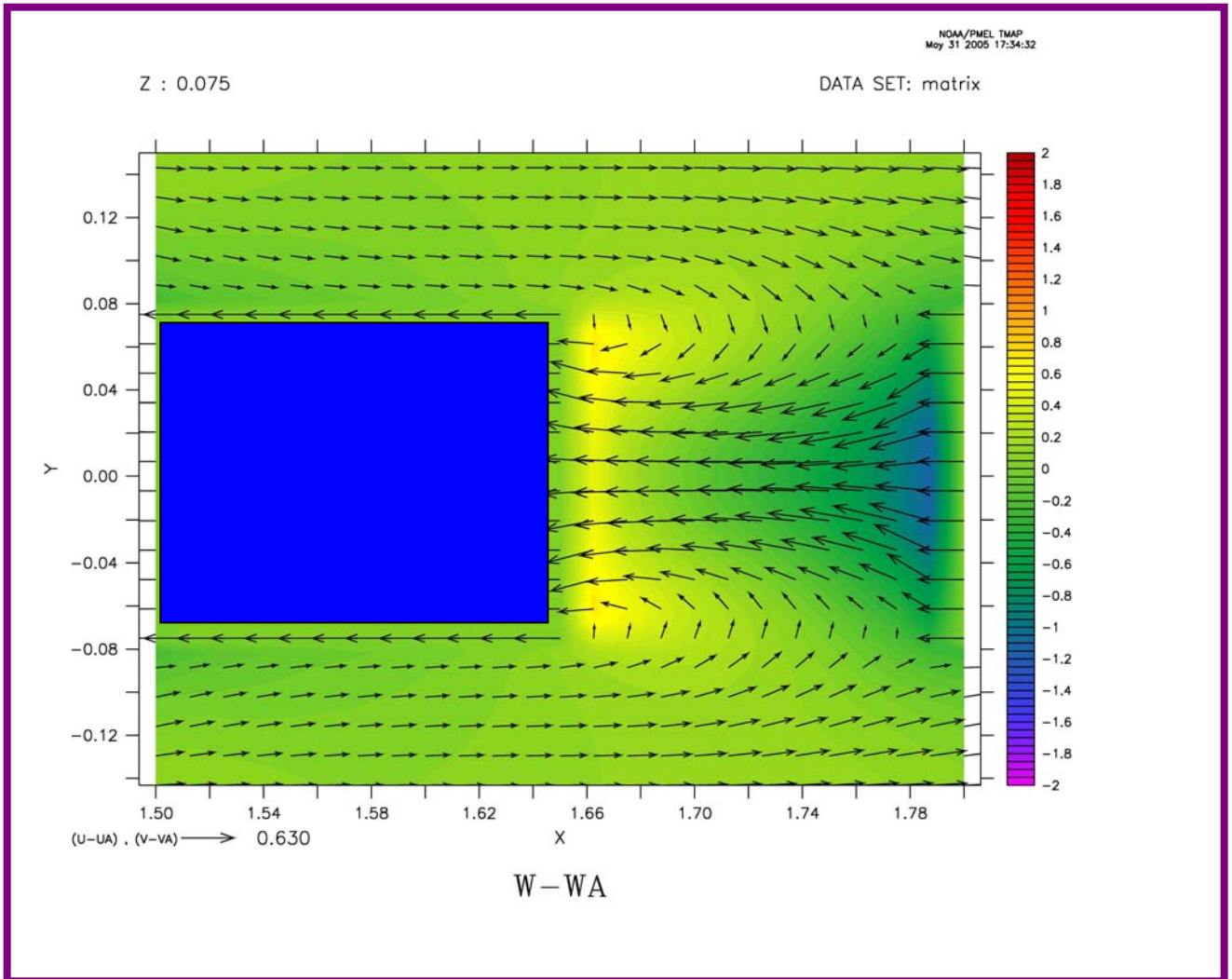
U-Uaverage at 0.75H



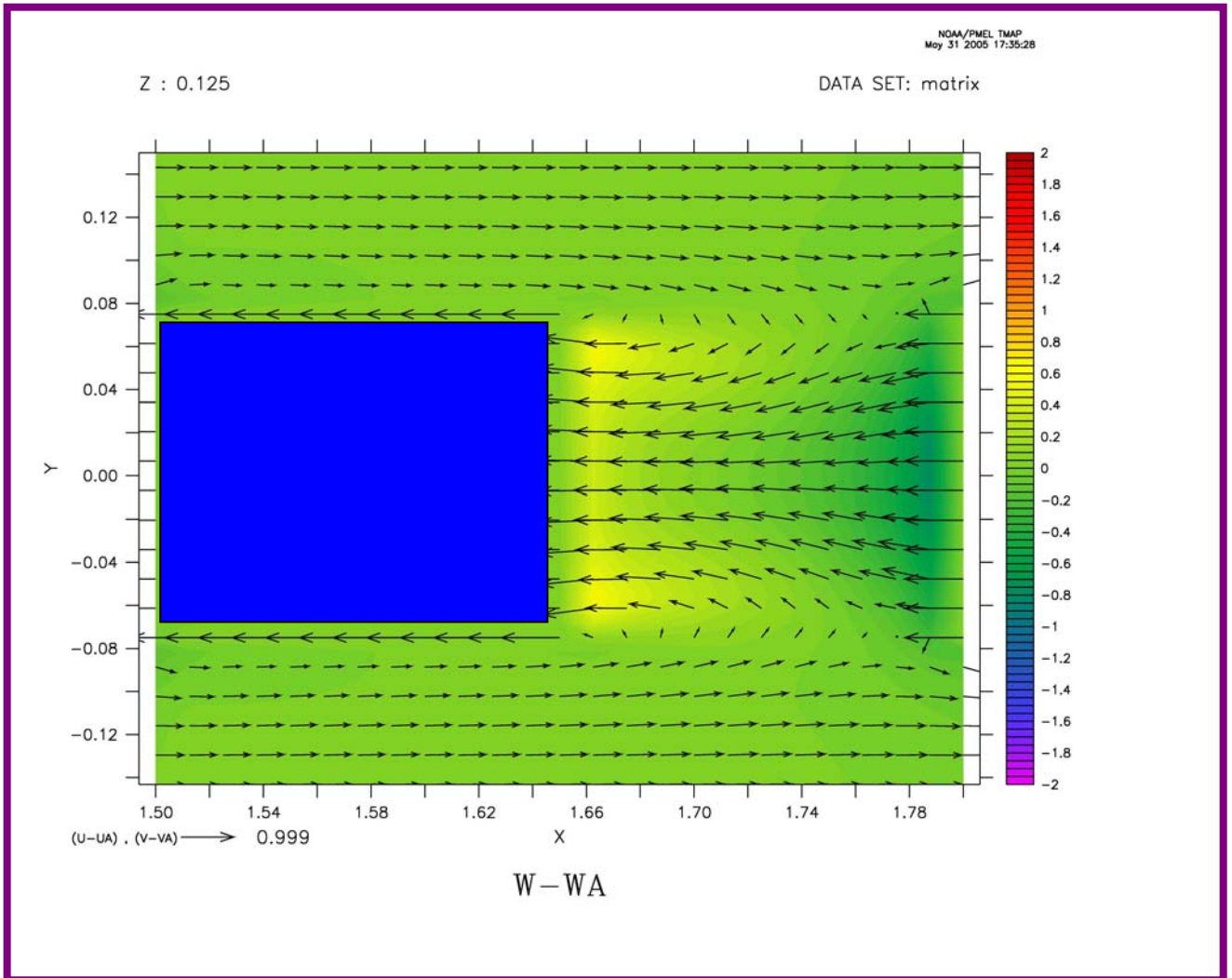
W-Waverage at 0.25H



W-Waverage at 0.5H



W-Waverage at 0.75H

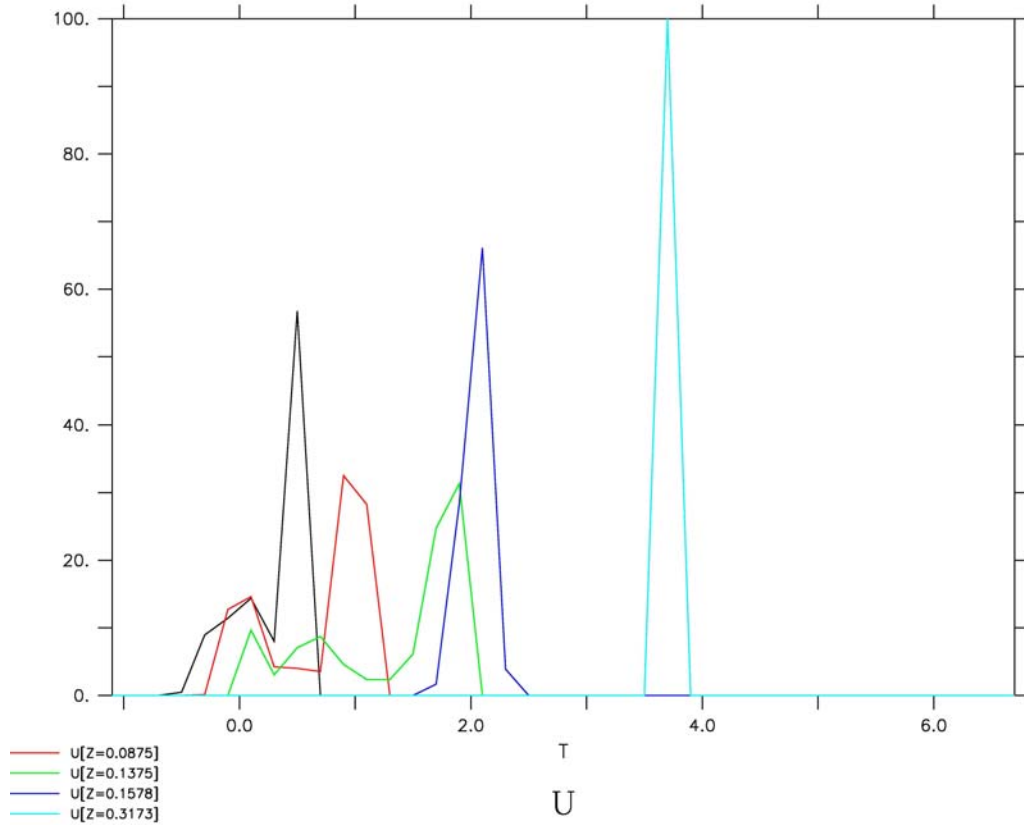


Distribution of U

X : 1.4
Z : 0.05

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DATA SET: count_ivol



— 0.25H

— 0.5H

— 0.75H

— H

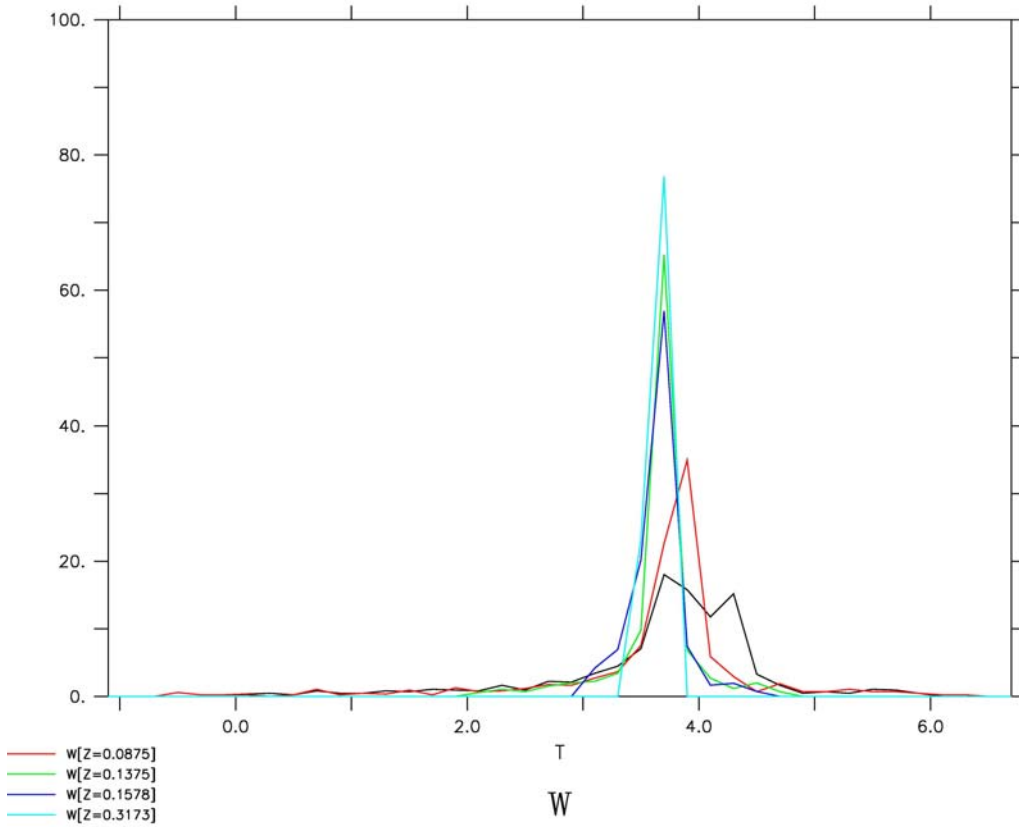
— 2H

Distribution of W

X : 1.4
Z : 0.05

NOAA/PMEL TMAP
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DATA SET: count_ivol



— 0.25H

— 0.5H

— 0.75H

— H

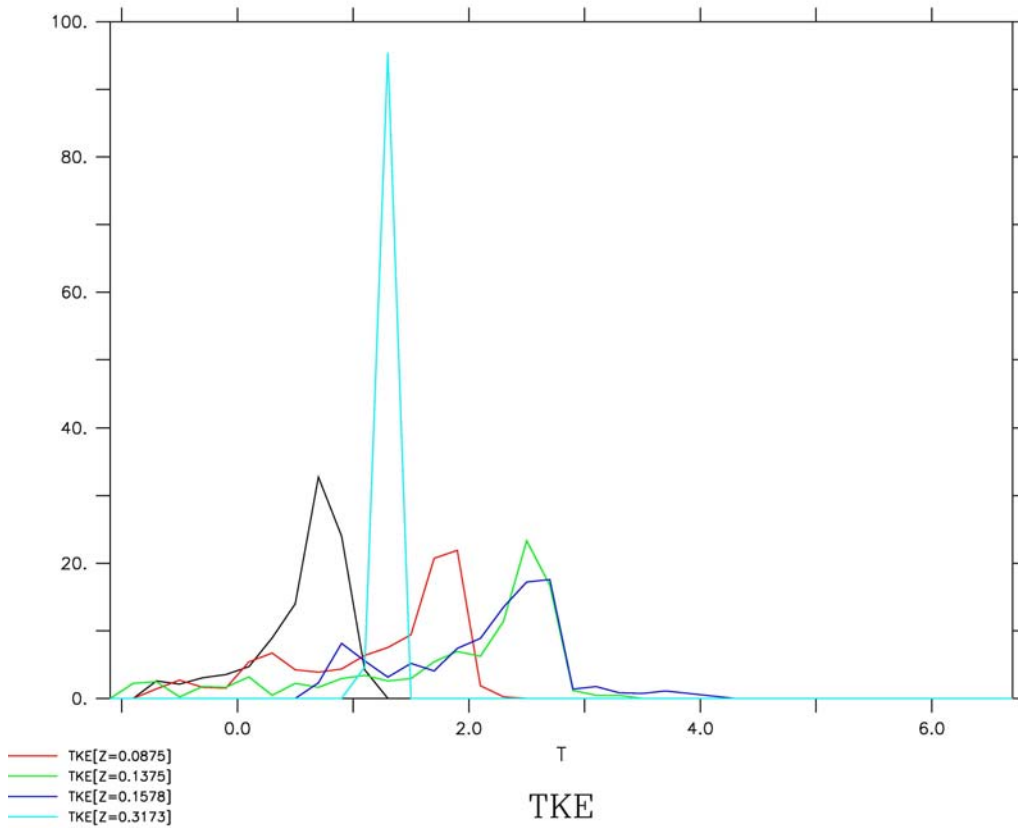
— 2H

Distribution of tke

X : 1.4
Z : 0.05

NOAA/PMEL TMAP
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DATA SET: count_ivol



— 0.25H

— 0.5H

— 0.75H

— H

— 2H