

Turbulent-laminar banded patterns in plane Poiseuille flow

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$Re \lesssim 900$

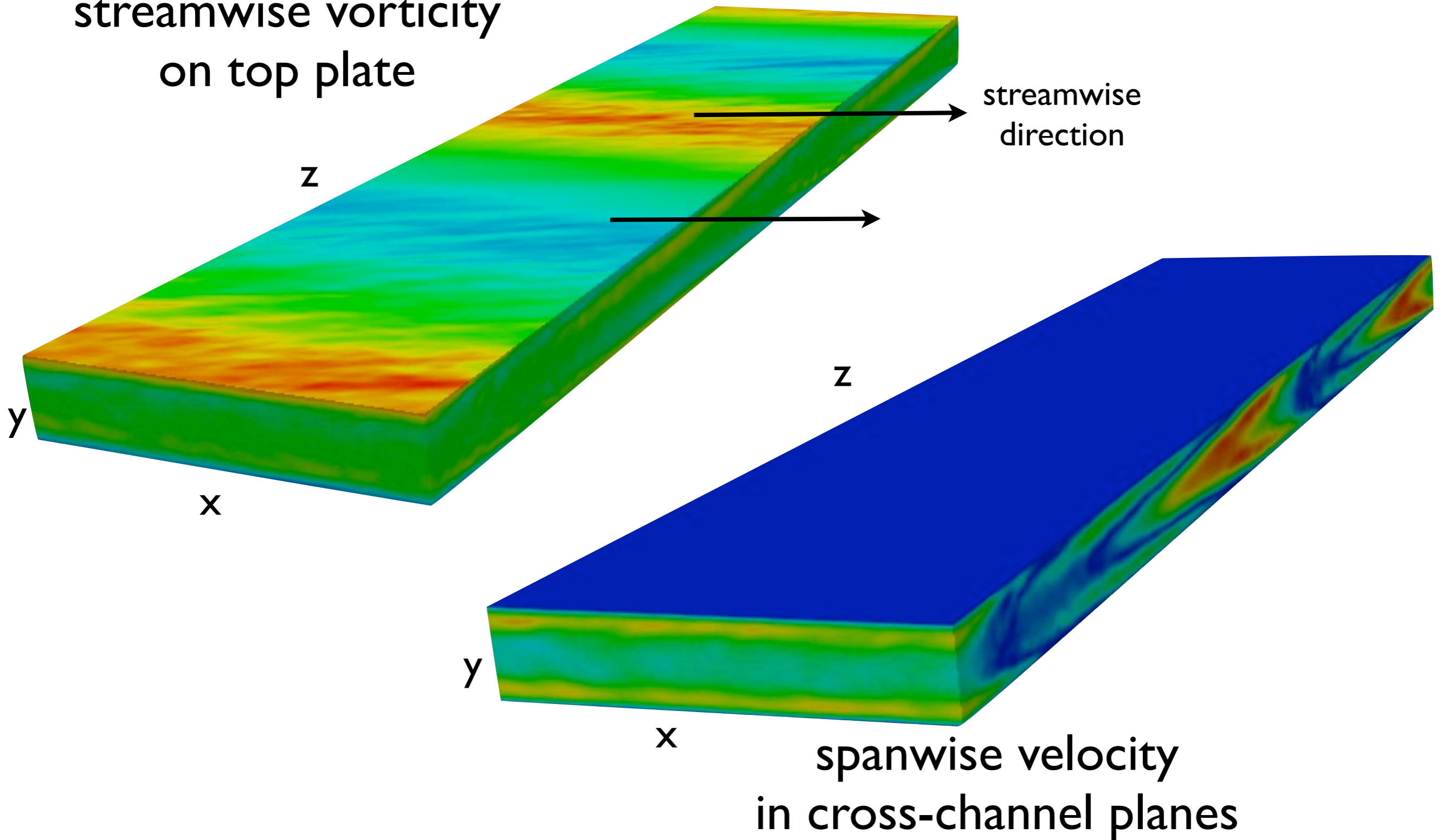


$Re \gtrsim 1600$

What about for intermediate Reynolds numbers?

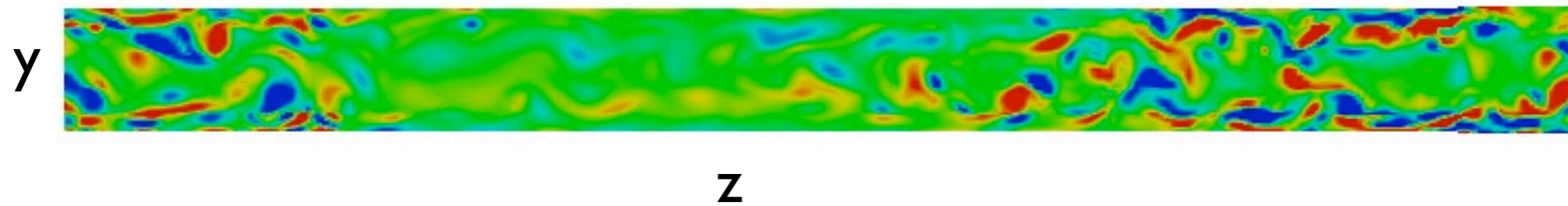
Time-averaged turbulent-laminar pattern

streamwise vorticity
on top plate

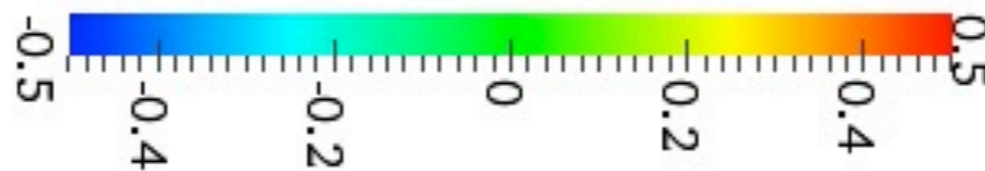
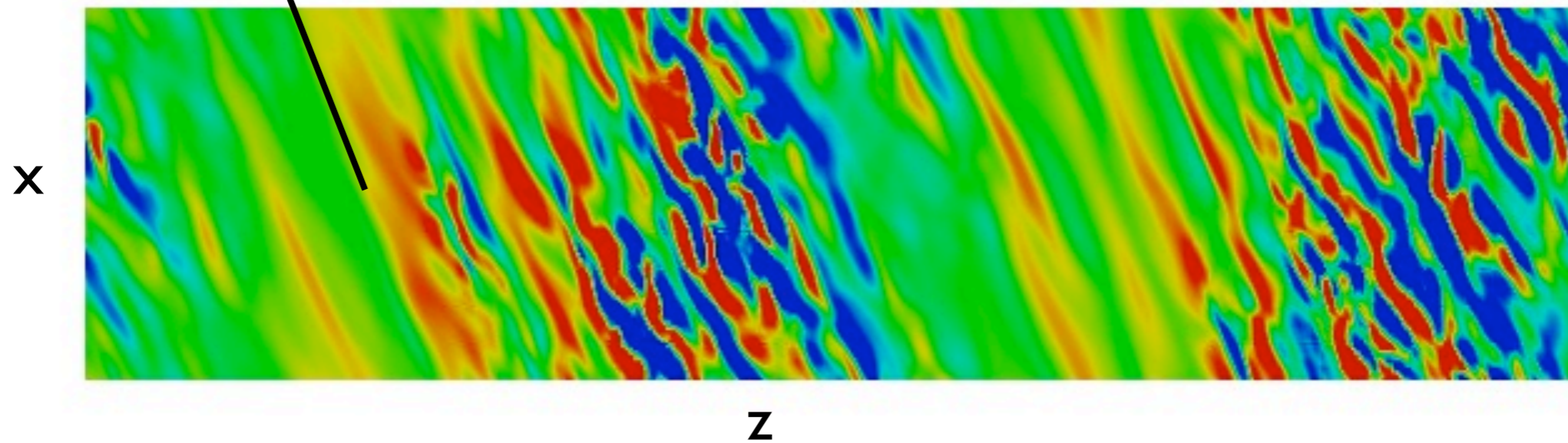


Instantaneous streamwise vorticity

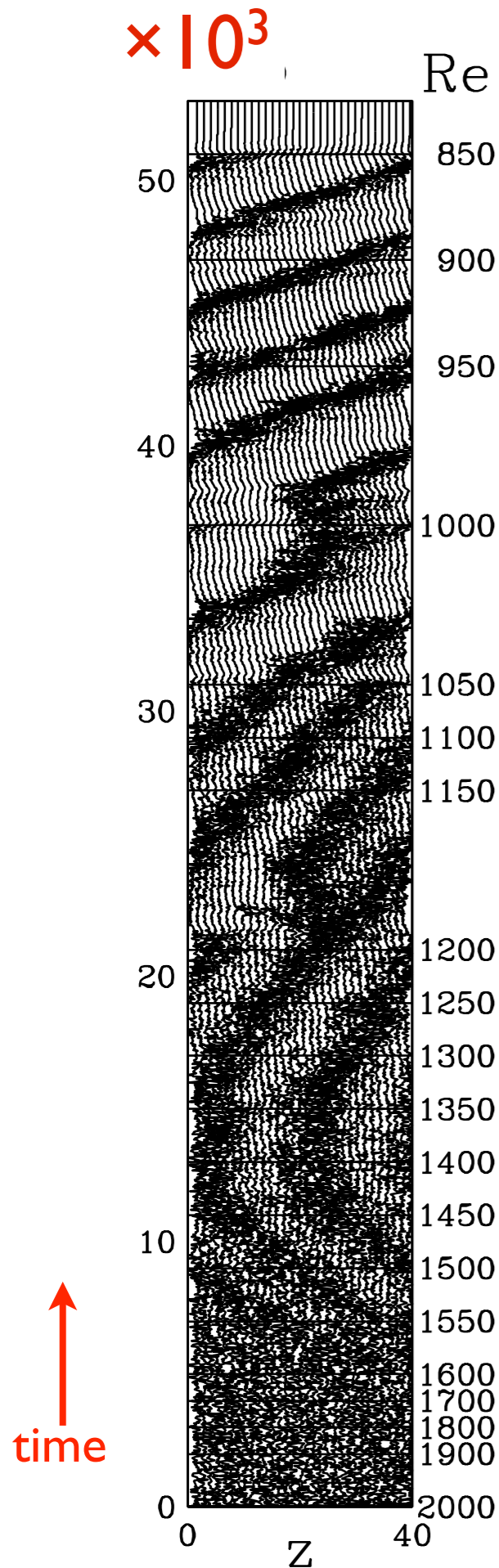
normal to streamwise direction



streamwise on upper plate



Velocity of bands: close to u_{mean} and Re -dependent



Re

850

900

950

1000

1050

1100

1150

1200

1250

1300

1350

1400

1450

1500

1550

1600

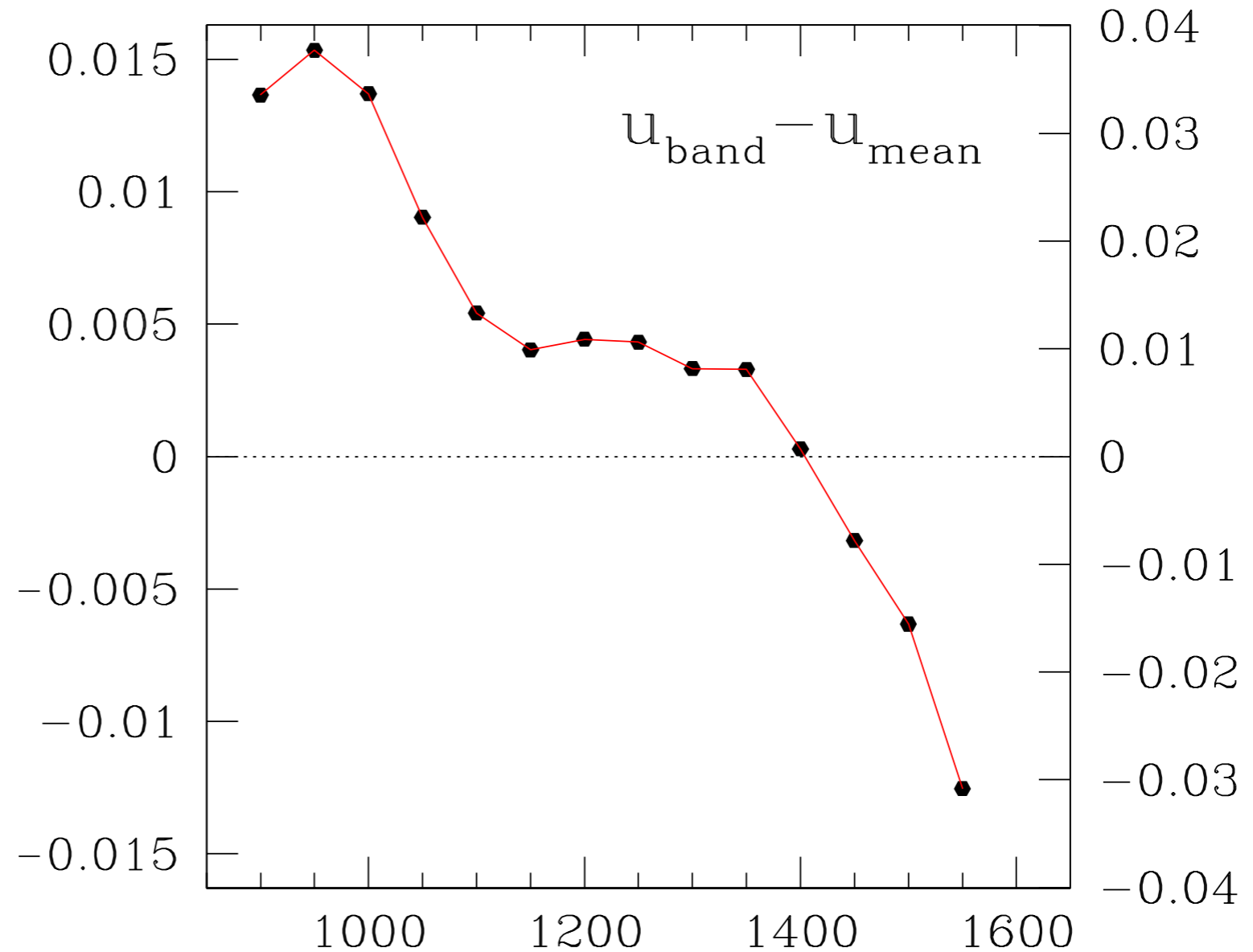
1700

1800

1900

2000

Z stream



units of $\frac{3}{2}(u_{\text{mean}} - u_{\text{wall}})$

Re