

Weekly Activity Review

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2-BL's Setup

- ▶ **BL1 Setup:** Low Resolution BL $Re_\theta = 1100 - 3130$
 - ▶ **Step 1:** Crop the **Low Resolution** $Re_\theta = 2000$ from:
 - ▶ $Re_\theta = 600 - 2100 \Rightarrow Re_\theta = 1100 - 2300$
 - ▶ Box Size: $3073 \times 360 \times 1024 \Rightarrow 2561 \times 360 \times 1024$ points
 - ▶ **Step 2:**
 - ▶ Extend in Y direction from $L_y = 3.9\pi \Rightarrow L_y = 12.61\pi$
 - ▶ Changing the **High Resolution** Y grid: $N_y = 360 \Rightarrow N_y = 841$
 - ▶ **Step 3:** Interpolate to **Low Resolution** Y grid: $N_y = 386$
 - ▶ **Step 4:** Run the different Lz extensions with $\Delta z^+ \approx 5.68$
 - ▶ Case 1: $L_z = 5.80 \cdot 2\pi$: $2561 \times 360 \times 1024$ **DONE**
 - ▶ Case 2: $L_z = 8.70 \cdot 2\pi$: $2561 \times 360 \times 1536$ **DONE**
 - ▶ Case 3: $L_z = 13.00 \cdot 2\pi$: $2561 \times 360 \times 2304$ **RUNNING**
 - ▶ Case 4: $L_z = 18.54 \cdot 2\pi$: $2561 \times 360 \times 2881$ **QUEUED**
 - ▶ **Step 4:** Run the Lx extensions up to $Re_\theta = 3130$.
 - ▶ Final Grid: $4097 \times 386 \times 2881$
 - ▶ 9.8 times smaller than BL2. Runs on ≈ 24 sec in 512 Nodes

2-BL's Setup

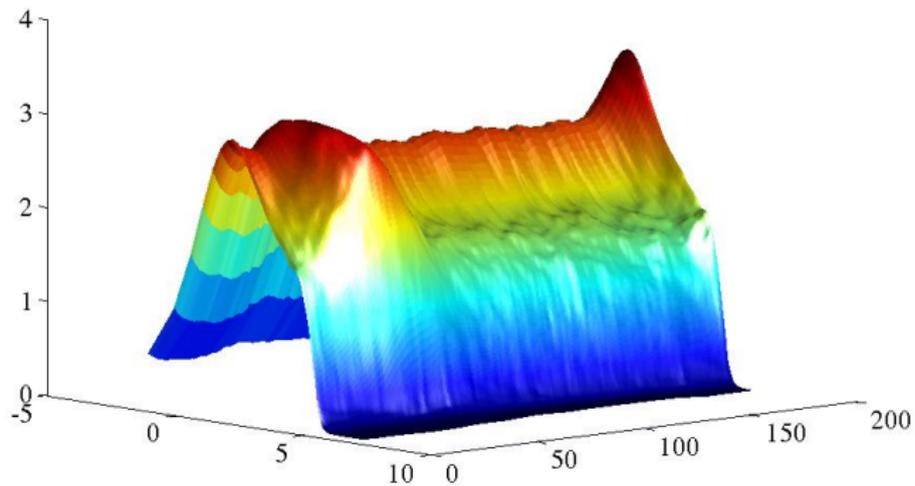
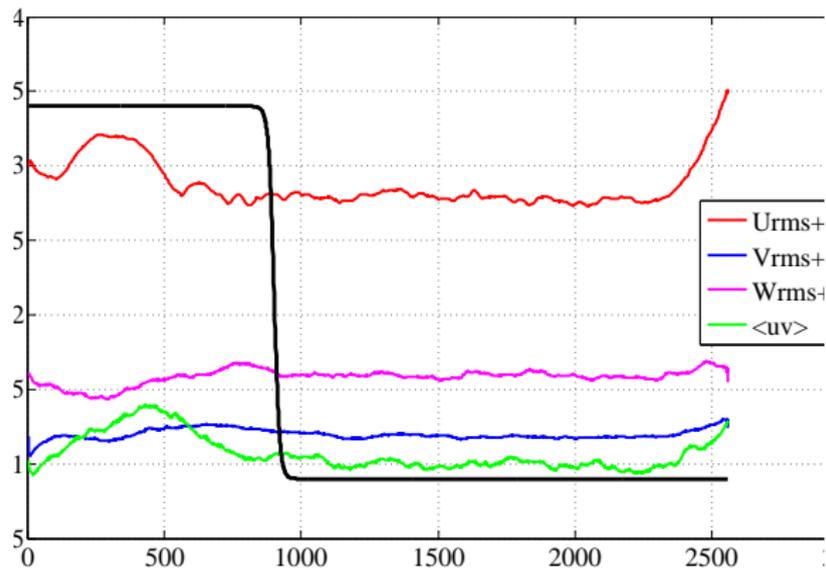


Figura: U_{rmsp}

2-BL's Setup



2-BL's Setup

- ▶ **BL2 Setup:** Low Resolution BL $Re_\theta = 2800 - 6250$
 - ▶ **Step 1:** Crop the **Low Resolution** $Re_\theta = 2500$ from:
 - ▶ $Re_\theta = 2500 - 6250 \Rightarrow Re_\theta = 2800 - 6250$
 - ▶ Box Size: $8193 \times 711 \times 2048 \Rightarrow 7681 \times 711 \times 2048$ points
 - ▶ **Step 2:** Extend in L_z and Impose profiles:
 - ▶ Extend $L_z = 14.07 \cdot 2\pi \Rightarrow L_z = 18.54 \cdot 2\pi$
 - ▶ **Impose** profiles over the **entire box** for the first 250 steps of 2500 steps
 - ▶ **Keep imposing** profiles over 1.5 Eddy-turn-over approx: 1850 of 7681 points
 - ▶ **Step 3:** Run the Case on 4096 Nodes **QUEUED**
 - ▶ **Step 4:** Interpolate to **High Resolution:**
 - ▶ Final Grid: $15361 \times 711 \times 2730$
 - ▶ Runs on ≈ 25.5 sec in 7.5k Nodes

2-BL's Setup

- ▶ 2-BL's Code **already ported** to Blue Gene
- ▶ Once BL1 & BL2 are available start running in **8k Nodes**
- ▶ **SHOULD** happen in the next few days: **Depending in the Queue acces times**

DATA TRANSFER

- ▶ I have already contacted DELFINO, TACC SUPPORT & INTREPID SUPPORT
 - ▶ **Manuel Delfino:** Awaiting for his reply (**How to efficiently move files to Spain**)
 - ▶ **TACC support:** Trying to **GET** the **GridFTP certificates** in their machines
 - ▶ **INTREPID support:** Trying to get Permission to execute BBCP (just in case)
- ▶ Tape Storage machine **RANCH** does not have GridFTP but BBCP: Better to use BBCP
 - ▶ **Ranger:** **Production Machine** ⇒ Globus+BBCP. **Scrath: 350 Gb**
 - ▶ **Ranch:** **Storage Machine** ⇒ Only BBCP
 - ▶ Both **GridFTP** and **BBCP** should have equivalent transfer rate on **TeraGrid** Network
- ▶ **Waiting replies** from both Support Centers: As soon as I get a solution I can **START transferring**.