**Secondary motions in turbulent ribbed channel flows.**

The files in this folder contain the data used to produce many of the figures in the 2024 JFM paper by Castro & Kim. Comments about each file are given below.

*Excel data and associated files*

Figs2-3\_S12W3\_8950 This is a workbook containing time- and spanwise-averaged data for the S12W3 case, listed in Table 1 of the paper. The main working sheet is labelled ‘Normalised’ and contains numerous additional columns of data. The four figures constituting figures 2 & 3 in the paper are included on that sheet.

 NB. There are similar workbooks available for all the cases listed in Table 1.

Fig11\_\*\*\* This workbook, which is identical to the one called Fig13\_\*\*\*, includes

 & Fig13\_\*\*\* the data for production of both fig.11 and fig.13. The figures themselves are on the sheets labelled Figure 11 and Figure 13.

Fig12 This contains the plots of figure 12, with original data included in

 & Fig12\_\*\*\* the workbook Fig12\_DispersiveStressData.

Fig14 This contains the plots of figure 14, with original data included in

 & Fig14\_\*\*\* the workbook labelled Fig14\_KE\_SwirlData.

Fig16 This contains the plots of figure 16, with original data included in

 & Fig16\_\*\*\* the workbook labelled Fig16\_KE\_SwirlData\_new.

*TecPlot files*

|  |  |  |
| --- | --- | --- |
| Figure | Tecplot file name | Associated data file |
| Fig.4a,c | S12W3\_Split\_Stream\_Vect\_x-vort.lay | S12W3\_Data.plt |
| Fig.4b,d | S26W13\_Split\_Stream\_Vect\_x-vort.lay | S26W13\_data.plt |
| Fig.5a-d | S12W3\_x-vorticity\_corner.lay | S12W3\_OmegaTransTerms.plt |
| Fig.9aFig.9b | S12W3\_OmegaCorner\_Grey.layS12W3rc\_Vorticity\_Corner\_Grey.lay | S12W3\_OmegaTransTerms.pltS12W3rc\_TransportTermsData.plt |
| Fig.10aFig.10bFig.10cFig.10d | S4W1\_Split\_Stream\_Vect\_x-vort.layS25W65\_Split\_Stream\_Vect\_x-vort.layS4W2\_Split\_Stream\_Vect\_x-vort.layS40W20\_Split\_Stream\_Vect\_x-vort.lay | S4W1\_Data.pltS25W65\_Data.pltS4W2\_Data.pltS40W20\_Data.plt |
| Fig.15 | S26W13\_Split\_Stream\_Vect\_x-vort.layS26W13\_025\_Split\_Stream\_Vect\_x-vort.layThese two pictures were combined in a .ppt file | S26W13\_data.pltS26W13\_025\_Data |

*Notes on Tecplot files.*

1. Before loading the .lay files, ensure that the associated Data.plt file is in the same folder.
2. With the .lay file loaded into TecPLot the data can be accessed using the Spreadsheet option (choosing this from the dropdown Data menu). It may be necessary to load the data under that option. Note that usually the required data appears in the Rectangular zone under the list of zones in the Data Spreadsheet panel.
3. In every case, a .jpeg file of the .lay figure may be produced by using the Export function.
4. For figure 15, the final figure was produced by loading the two jpeg figures from the .lay files into a Powerpoint slide and manipulating each.