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Two-dimensional coherence spectra and their prediction using a linear Navier-Stokes based model ANAGHA MADHUSUDANAN, SIMON ILLINGWORTH, IVAN MARUSIC, University of Melbourne — Recent studies of one-dimensional coherence spectra in turbulent boundary layers has helped in understanding the structure of wall-turbulence further [Baars et al., 2016, 2017]. In the present work we study these coherence spectra in further detail in two parts. First, we study the trends in the two-dimensional coherence spectra in a turbulent channel, following the analysis of Jiménez et al. [2004] that considers the coherence of structures within the buffer layer. And secondly, this study focuses on the prediction of this coherence spectrum using a linear Navier-Stokes based model.
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