Castro, D., and de Carvalho, M. (2016+), "Spectral Density Regression for Bivariate Extremes,"
Stochastic Environmental Research and Risk Assessment, in press (DOI: 0.1007/s00477-016-1257-z).

Stoch Environ Res Risk Assess (2016)

Supplementary material for: Spectral density regression for bivariate extremes

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§A: Asymmetric single-run experiment

Analogously to Fig. 3 in the paper, Fig. 1 displays the true spectral surface from the asymmetric Dirichlet predictor-dependent model detailed in Sect. 3.1, followed by spectral surface estimates for Configurations 1 and 2 using the double kernel estimator, where $\mathbb{K}_b$ is chosen as a normal kernel with standard deviation b.

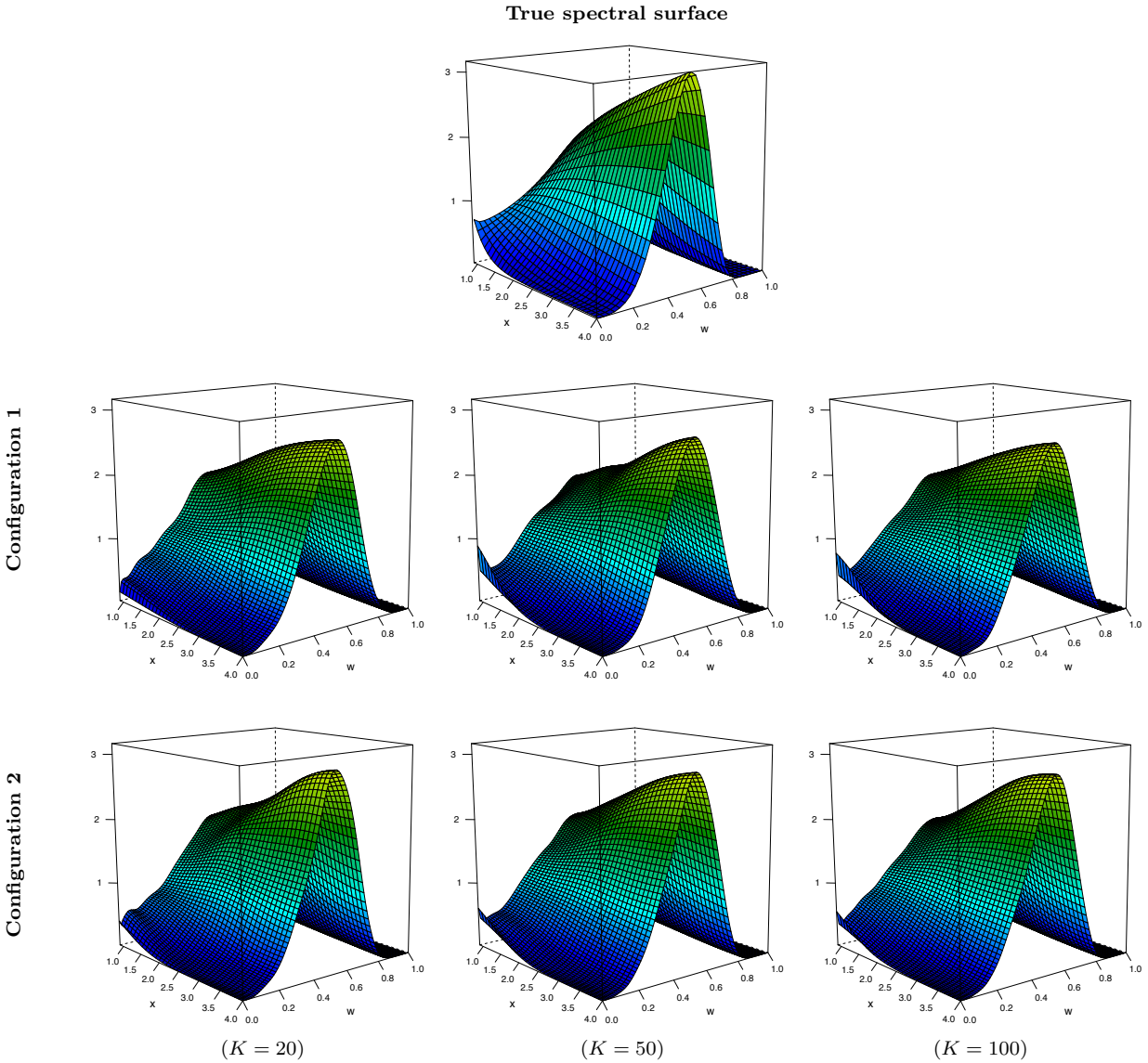

Fig. 1. On the top: true spectral surface from the asymmetric Dirichlet predictor-dependent model detailed in Sect. 3.1, followed by spectral surface estimates for Configurations 1 (above) and 2 (below).

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§B: Monte Carlo mean spectral surfaces

Monte Carlo mean spectral surfaces are plotted in Figures 2 and 3, where we average over 1000 simulation for $K \in \{20, 50, 100\}$ and Configurations 1 and 2 described in Sect. 3.1.

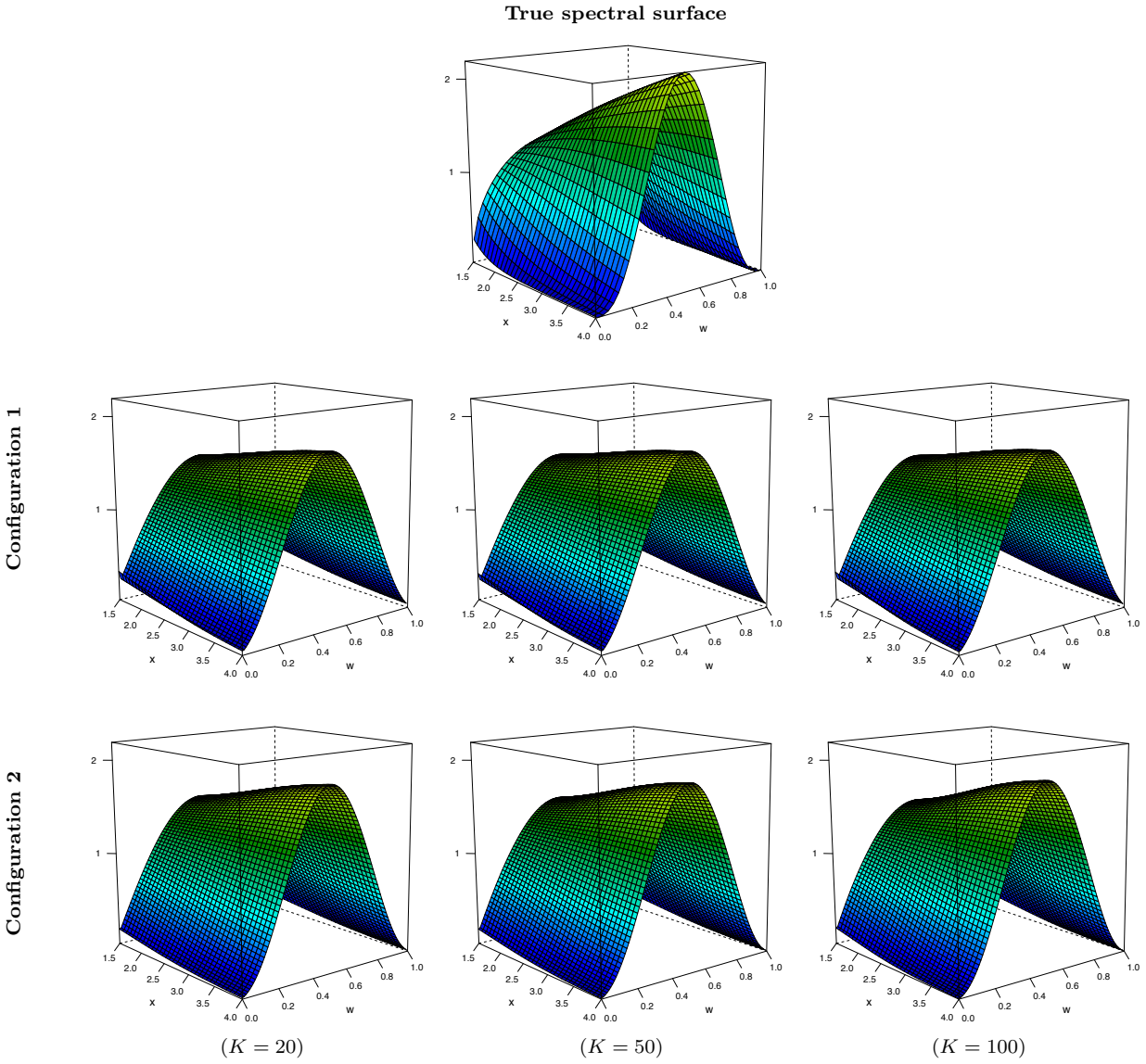

Fig. 2. On the top: true spectral surface from the symmetric Dirichlet predictor-dependent model detailed in Sect. 3.1, followed by Monte Carlo mean spectral surface estimates for Configurations 1 (above) and 2 (below).

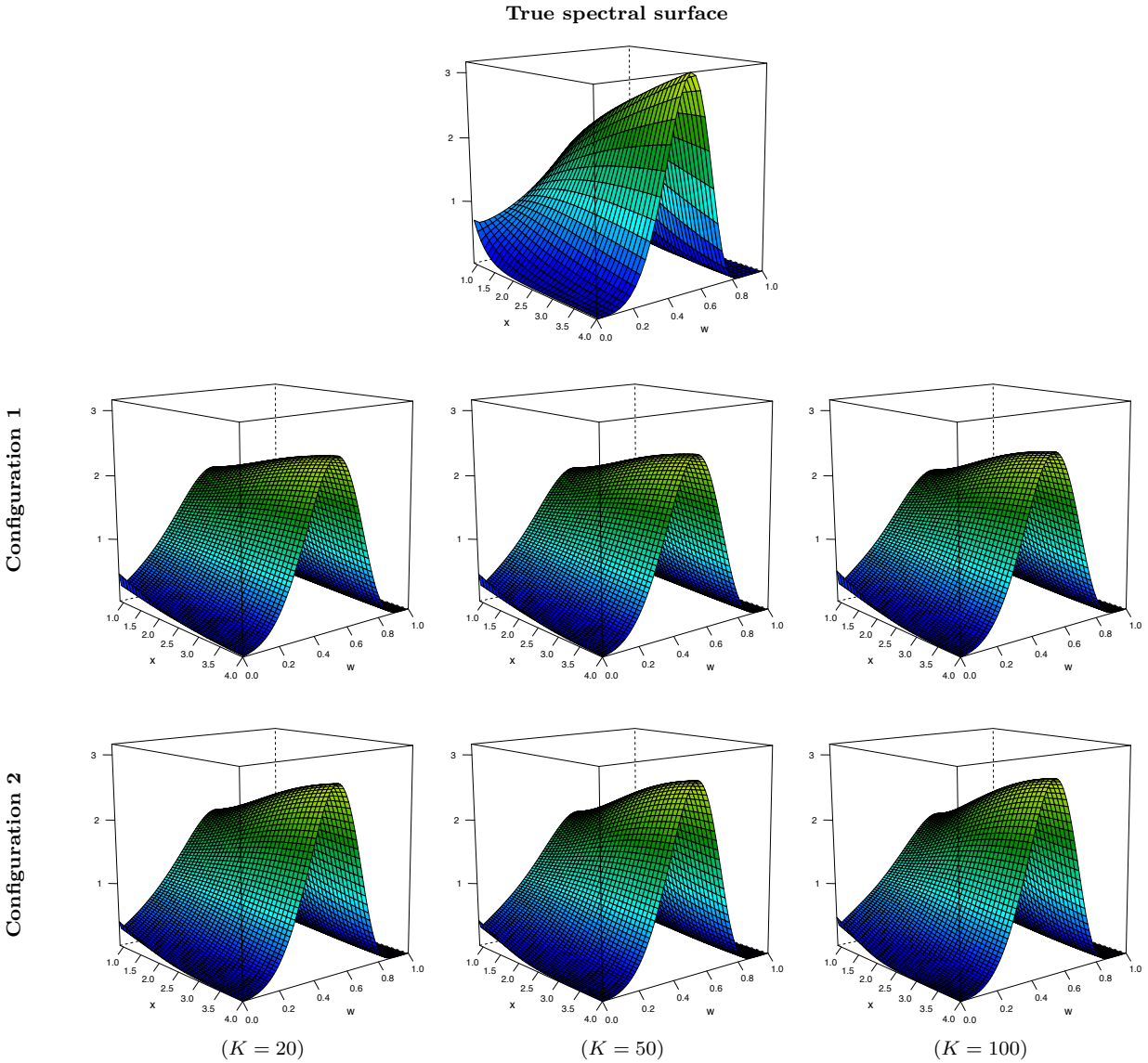

Fig. 3. On the top: true spectral surface from the asymmetric Dirichlet predictor-dependent model detailed in Sect. 3.1, followed by Monte Carlo mean spectral surface estimates for Configurations 1 (above) and 2 (below).