ChainConsumer

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Summary

ChainConsumer is a python package written to consume the output chains of Monte-Carlo processes and fitting algorithms, such as the results of MCMC.

ChainConsumer's main function is to produce plots of the likelihood surface inferred from the supplied chain. In addition to showing the two-dimensional marginalised likelihood surfaces, marginalised parameter distributions are given, and maximum-likelihood statistics are used to present parameter constraints.

In addition to this, parameter constraints can be output in the form of a LaTeX table. Finally, ChainConsumer also provides the functionality to plot the chains as a series of walks in parameter values, which provides an easy visual check on chain mixing and chain convergence.

Plotting is performed via the matplotlib library (Hunter 2007), and makes use of various numpy (Walt, Colbert, and Varoquaux 2011) and scipy (Jones et al. 2001) functions. The optional KDE feature makes use of (StatsModels Team 2016).

Code archives can be found on Zenodo at (Zenodo Archive 2016) and any bugs or feature requests can be opened as issues on the Github development page (Hinton 2016).

References

Hinton, Samuel. 2016. "ChainConsumer." https://github.com/samreay/ChainConsumer.

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Jones, Eric, Travis Oliphant, Pearu Peterson, and others. 2001. "SciPy: Open Source Scientific Tools for Python." http://www.scipy.org/.

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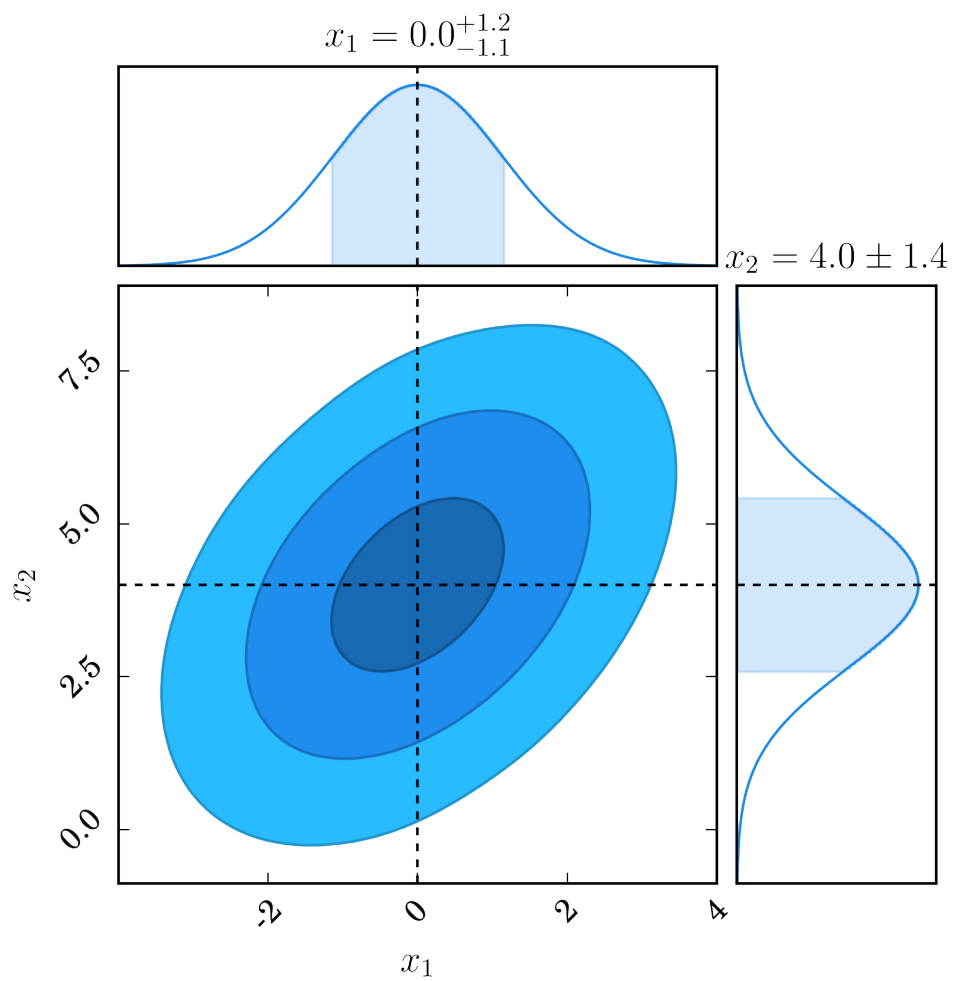
Figure 1: Likelihood surfaces and marginalised distributions created by ChainConsumer.