Challenges: some solutions
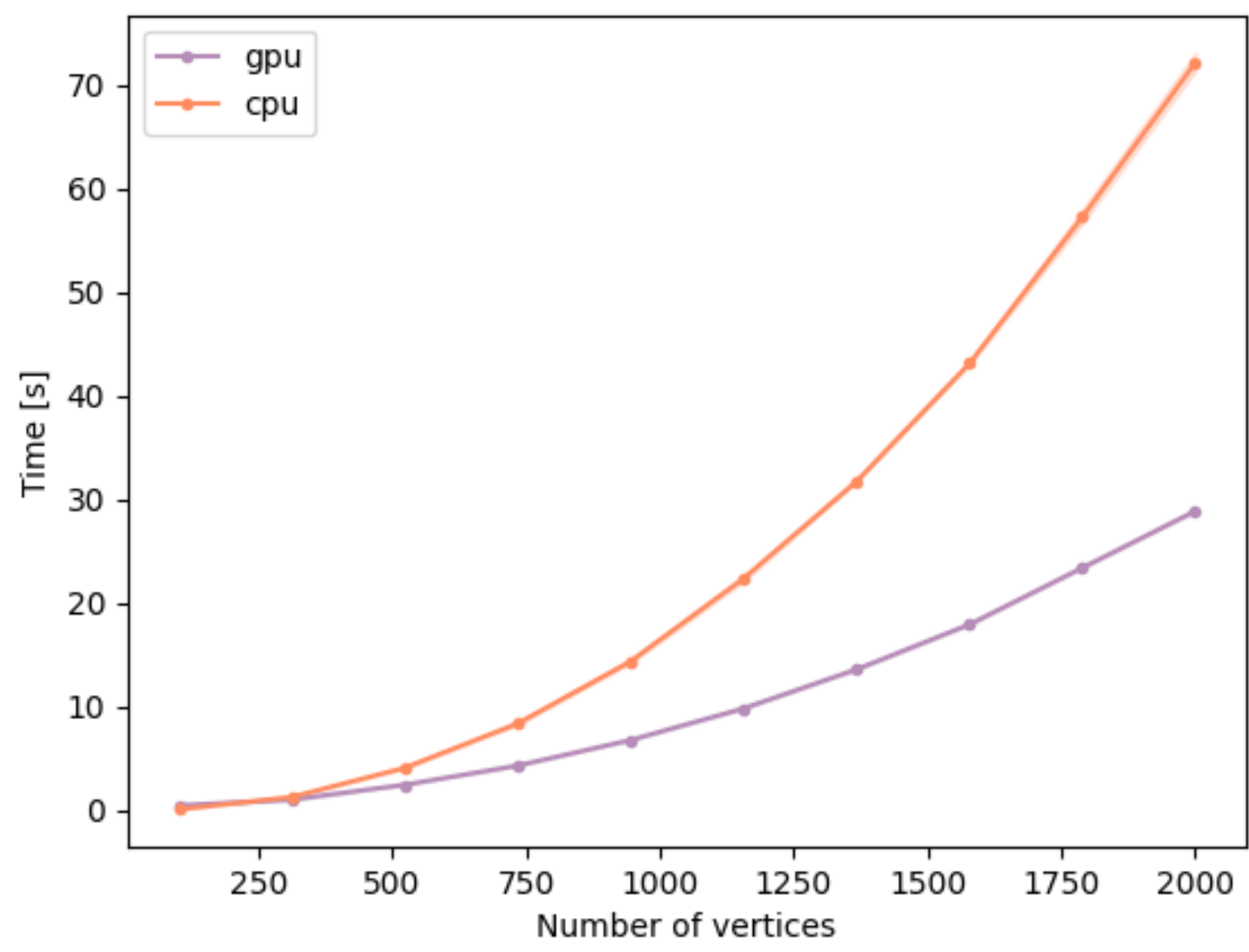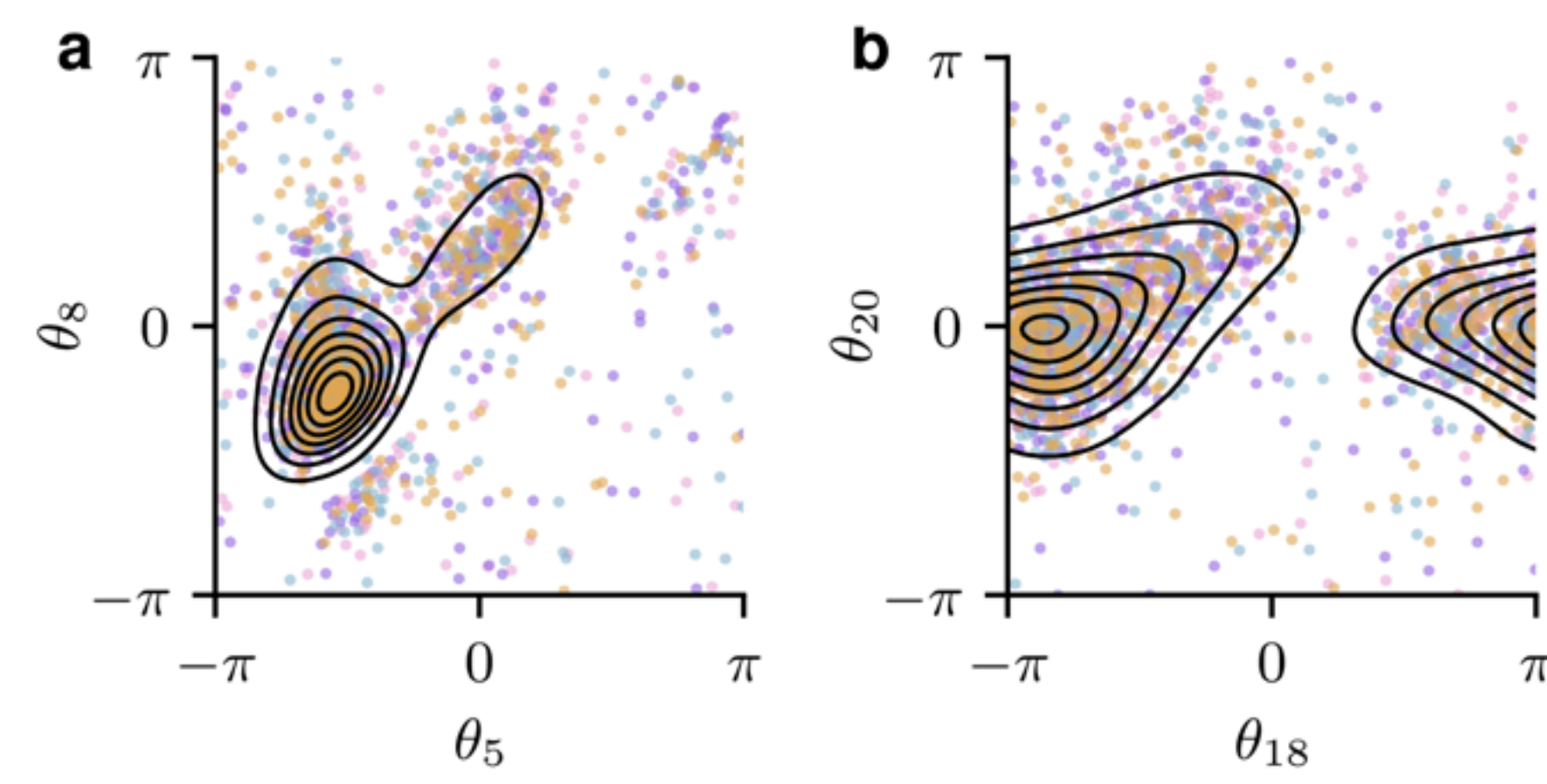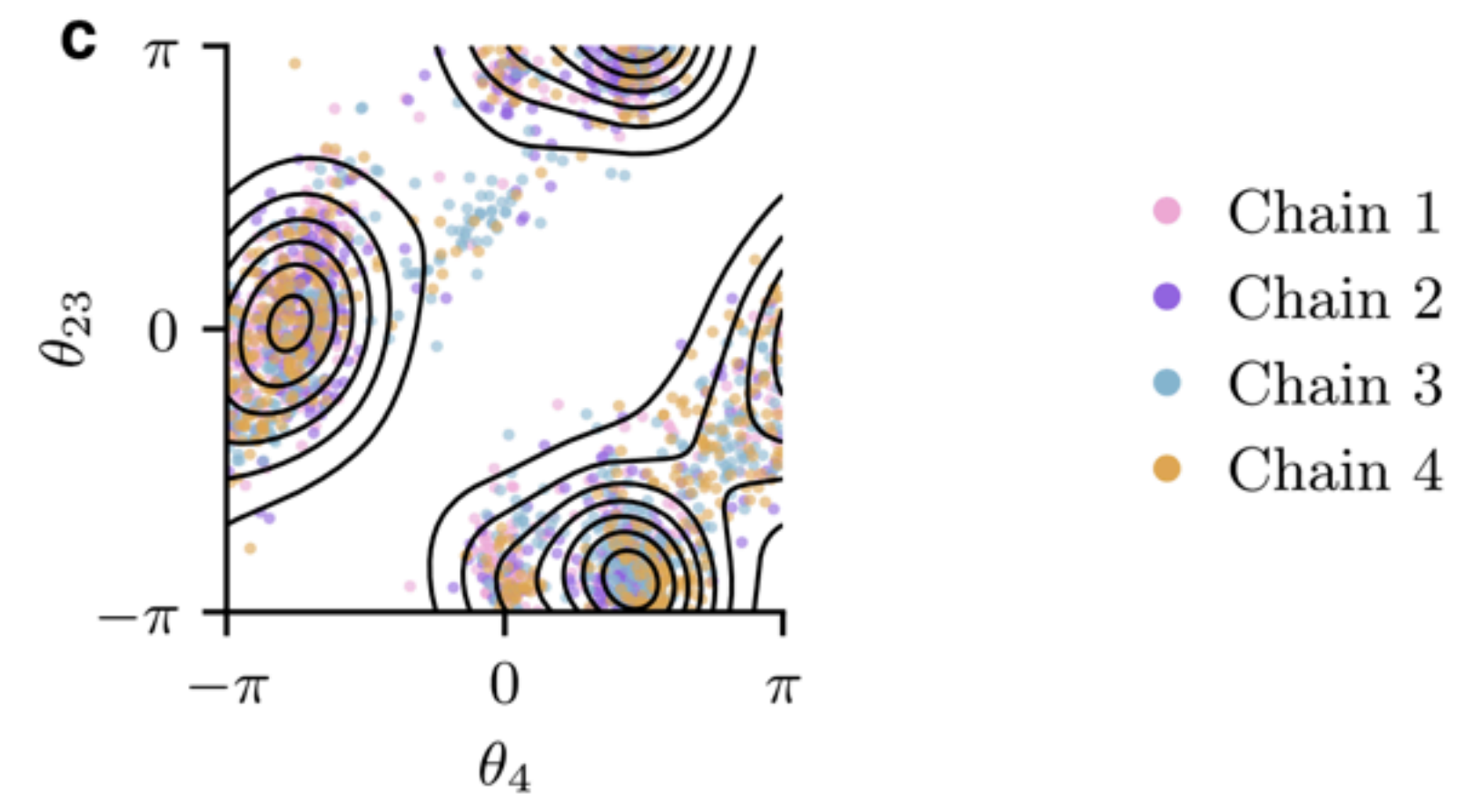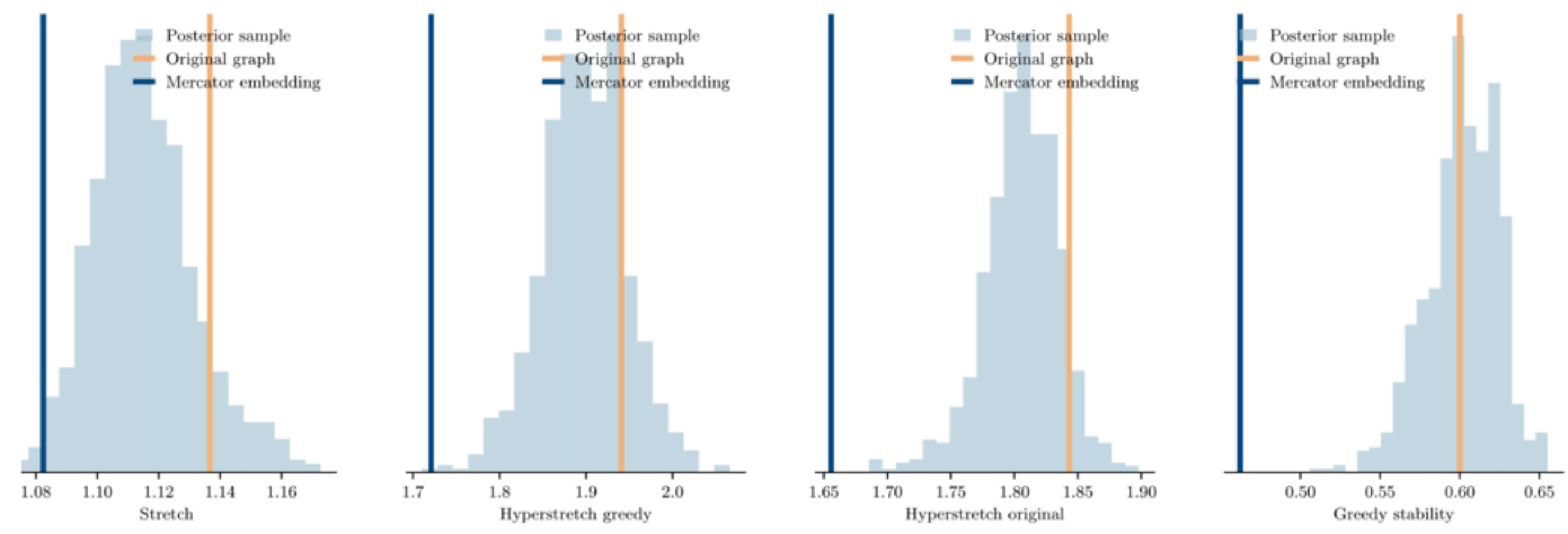
Still slow…

…and these uncertainties are not "trivial" (non-normal).

…but we now have uncertainties on graph metrics!

Challenges

▷ Network geometry is a promising framework, but its applicability relies heavily on our capacity to find high quality embeddings of the original datasets, which is hard.

▷ We cannot power our way through this challenge using GPUs or supercomputers: we need to design smarter algorithms.
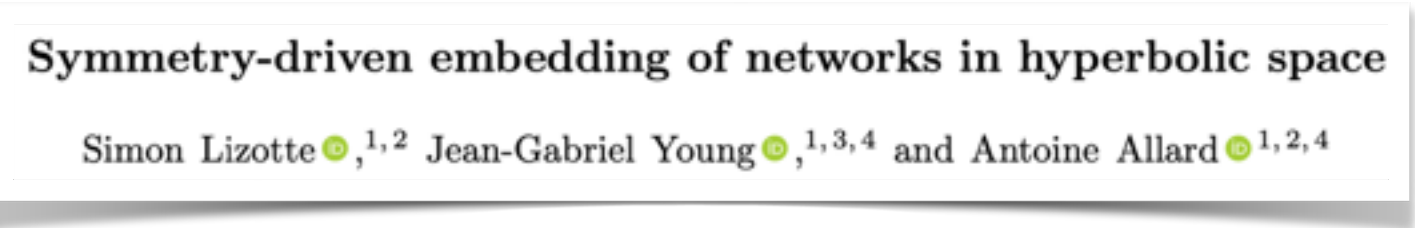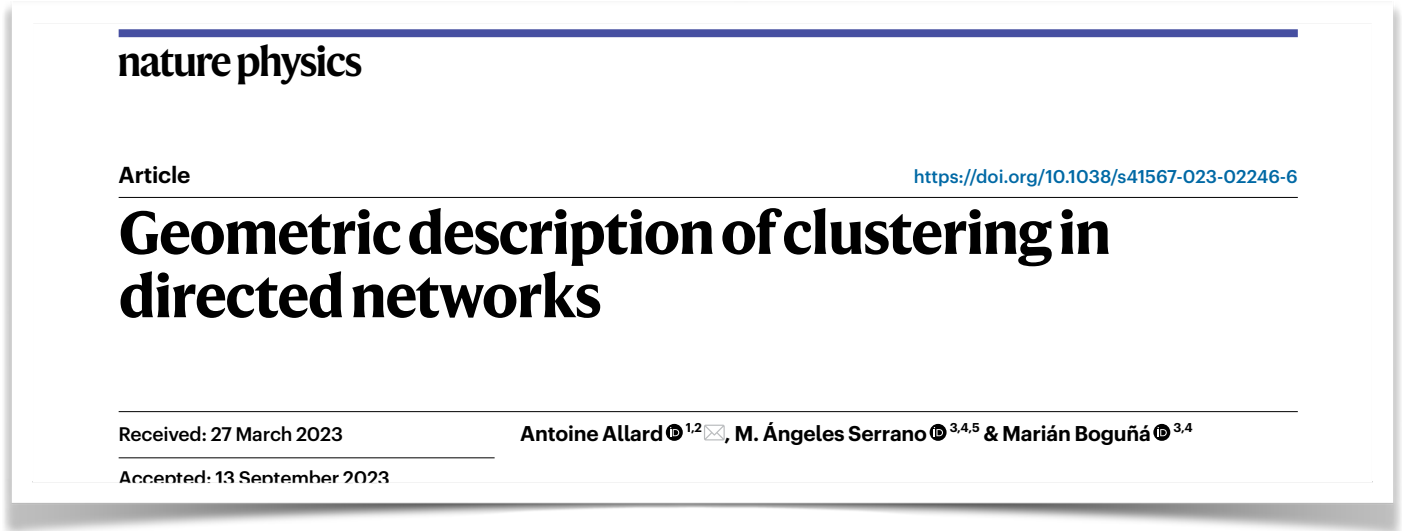
M. Ángeles Serrano
Universitat de Barcelona & ICREA

Jérémi Lesage
Université Laval

Marián Boguñá
Universitat de Barcelona

Jean-Gabriel Young
University of Vermont

Simon Lizotte
Université Laval

Symmetry-driven embedding of networks in hyperbolic space

Simon Lizotte [1,2] Jean-Gabriel Young [1,3,4] and Antoine Allard [1,2,4]

arXiv:2406.10711

Hyperbolic Embedding of Directed Networks

Jérémi Lesage, M. Ángeles Serrano, Marián Boguñá and Antoine Allard

Preprint on arXiv expected early 2025