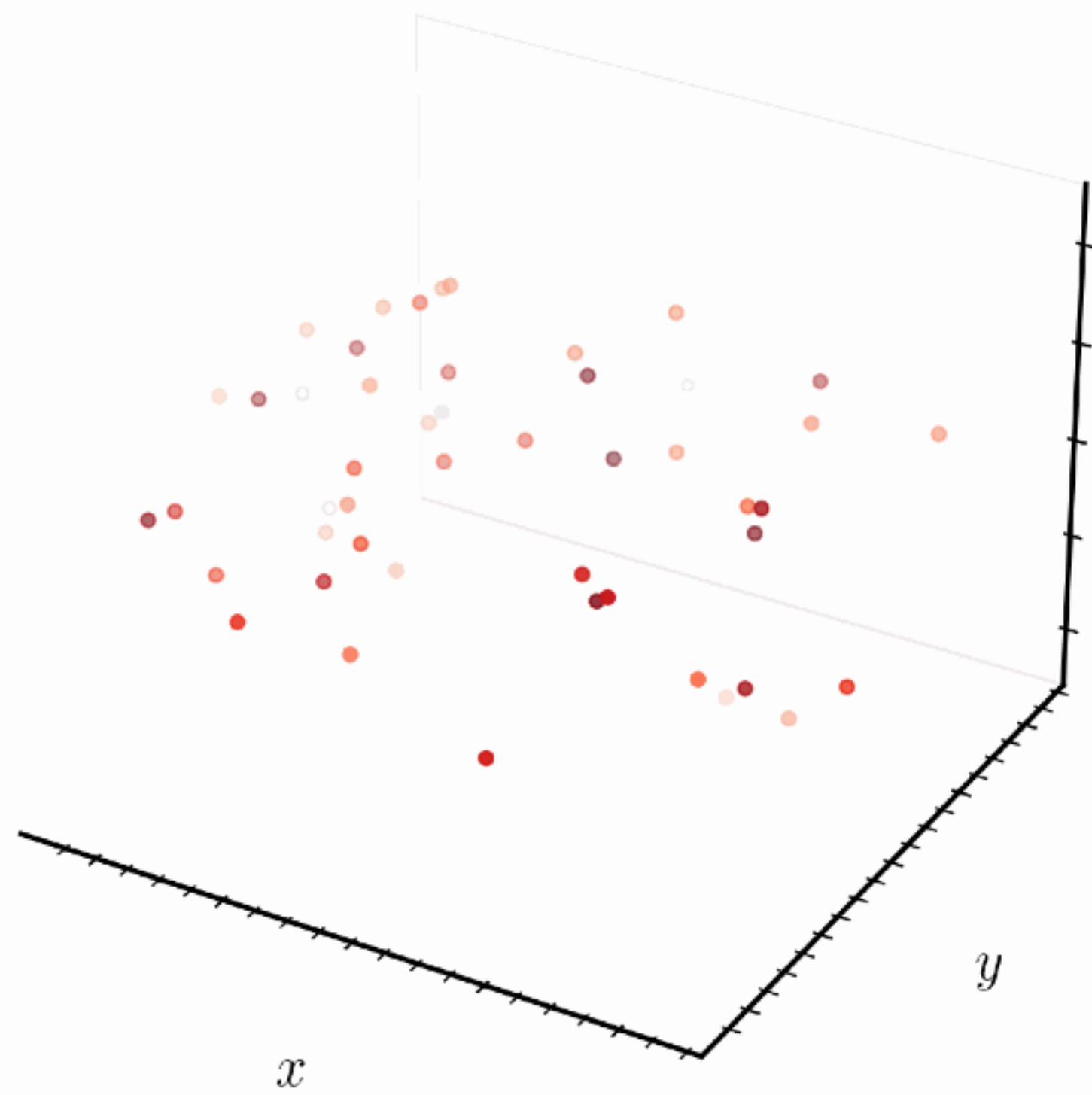




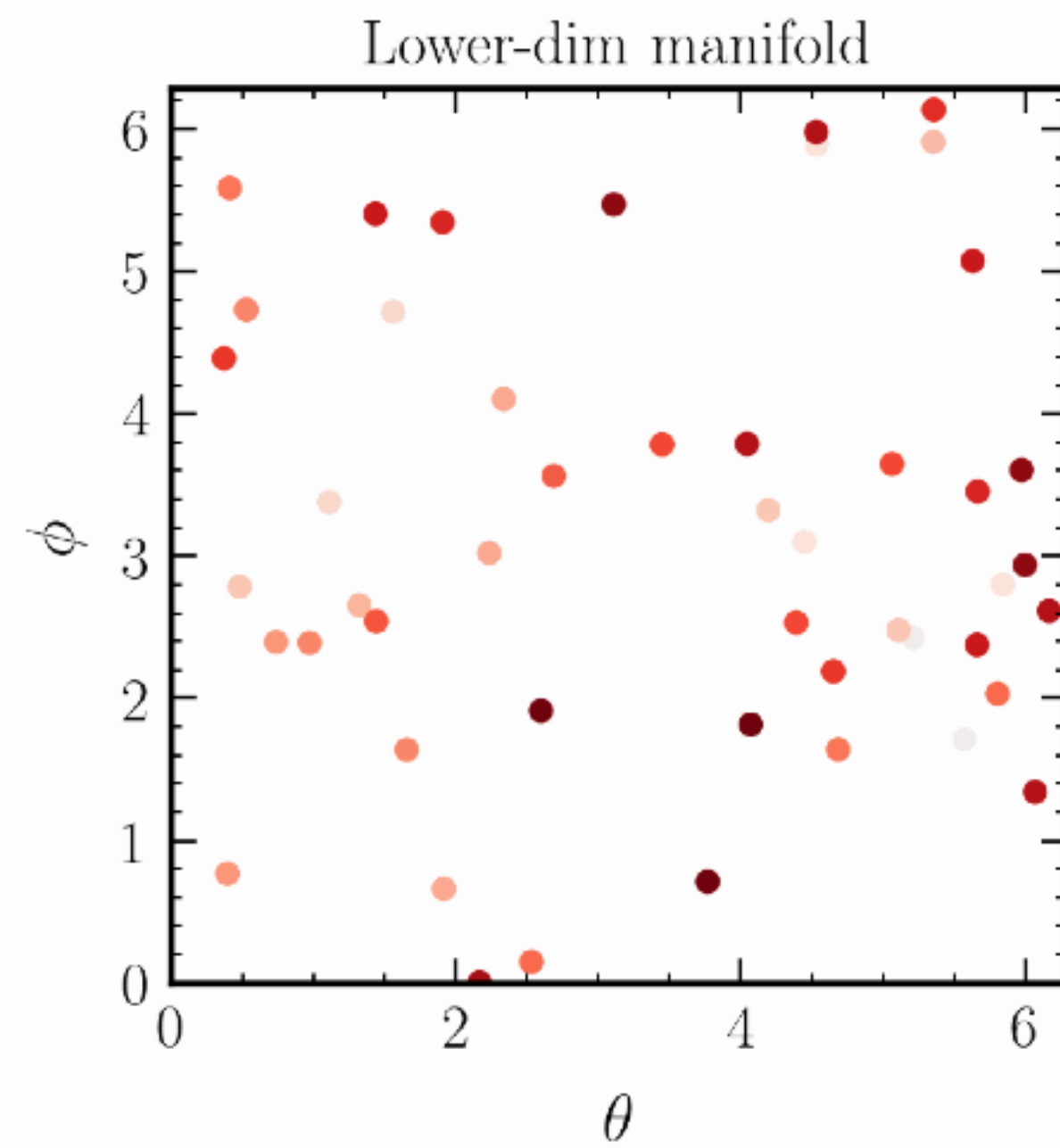
Siddhant Mishra-Sharma (MIT/AI FI) Summer School



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$z$



13



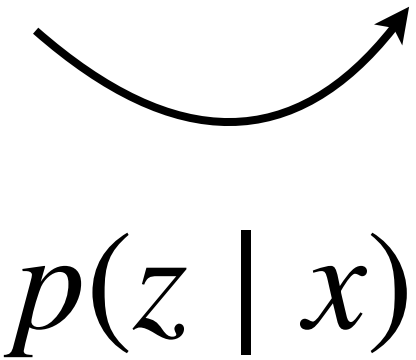
Real-world data for live industrial manufacturing

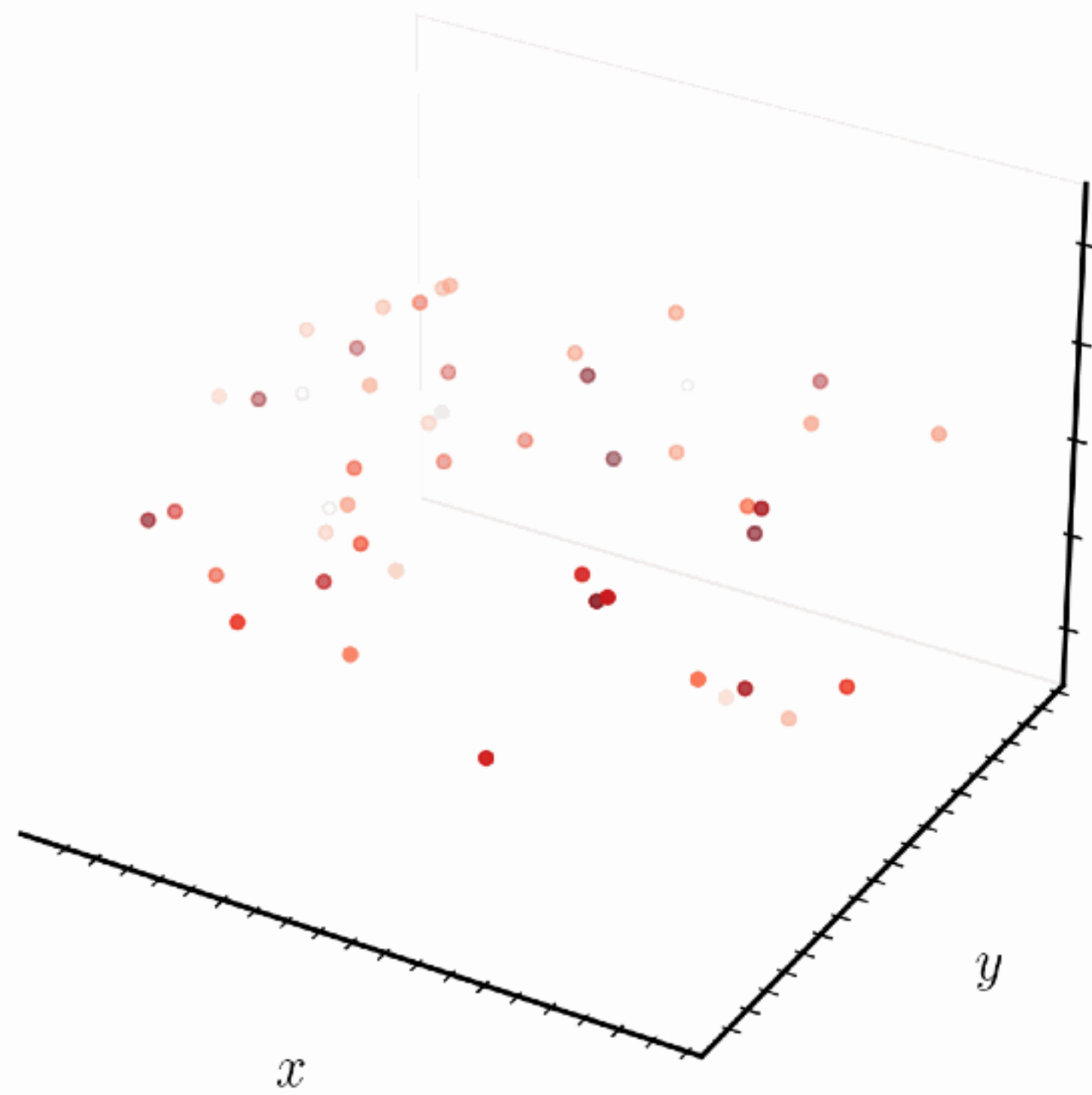
The pursuit of low-dimensional structure



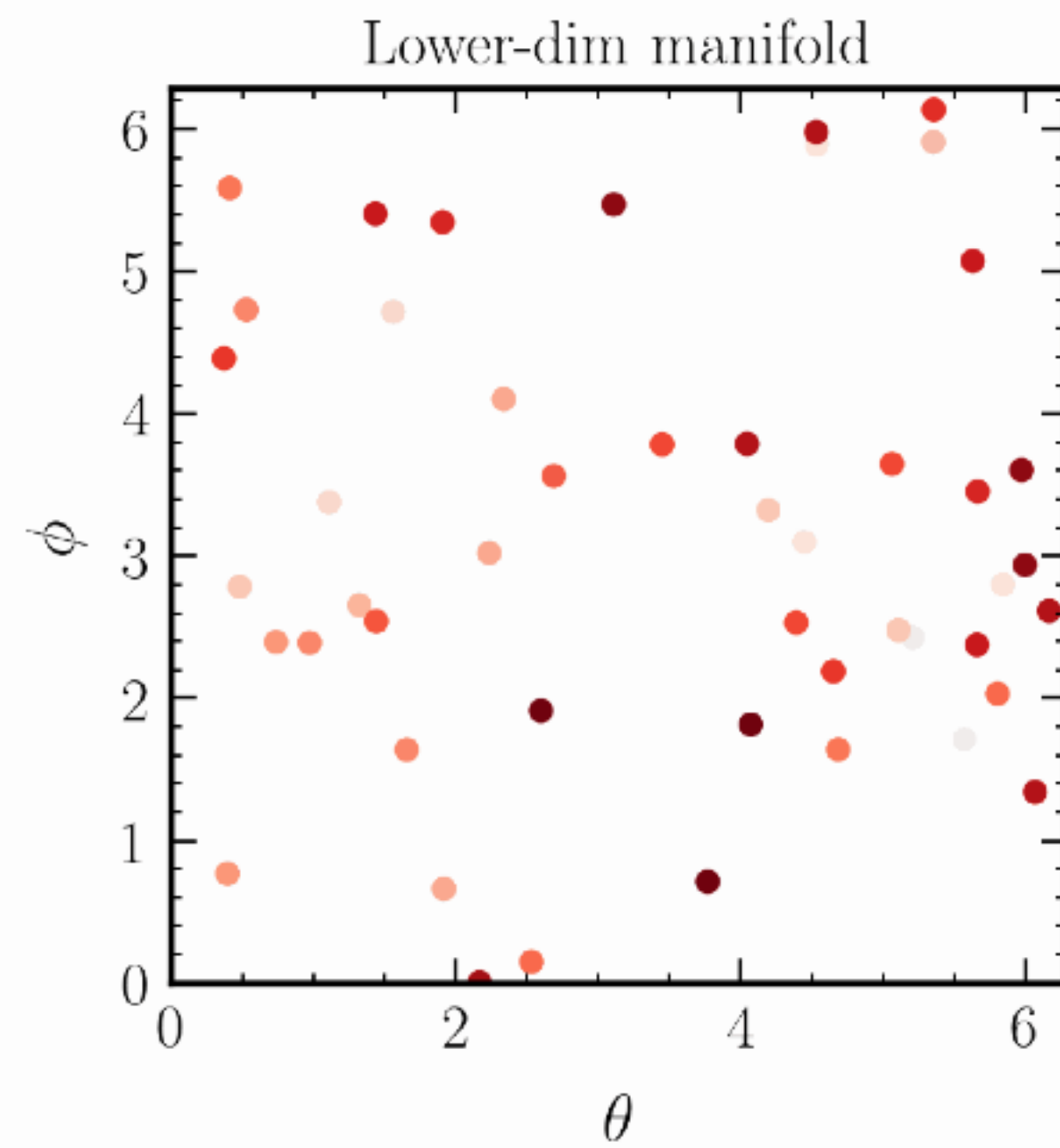
*"Easy to model" z*

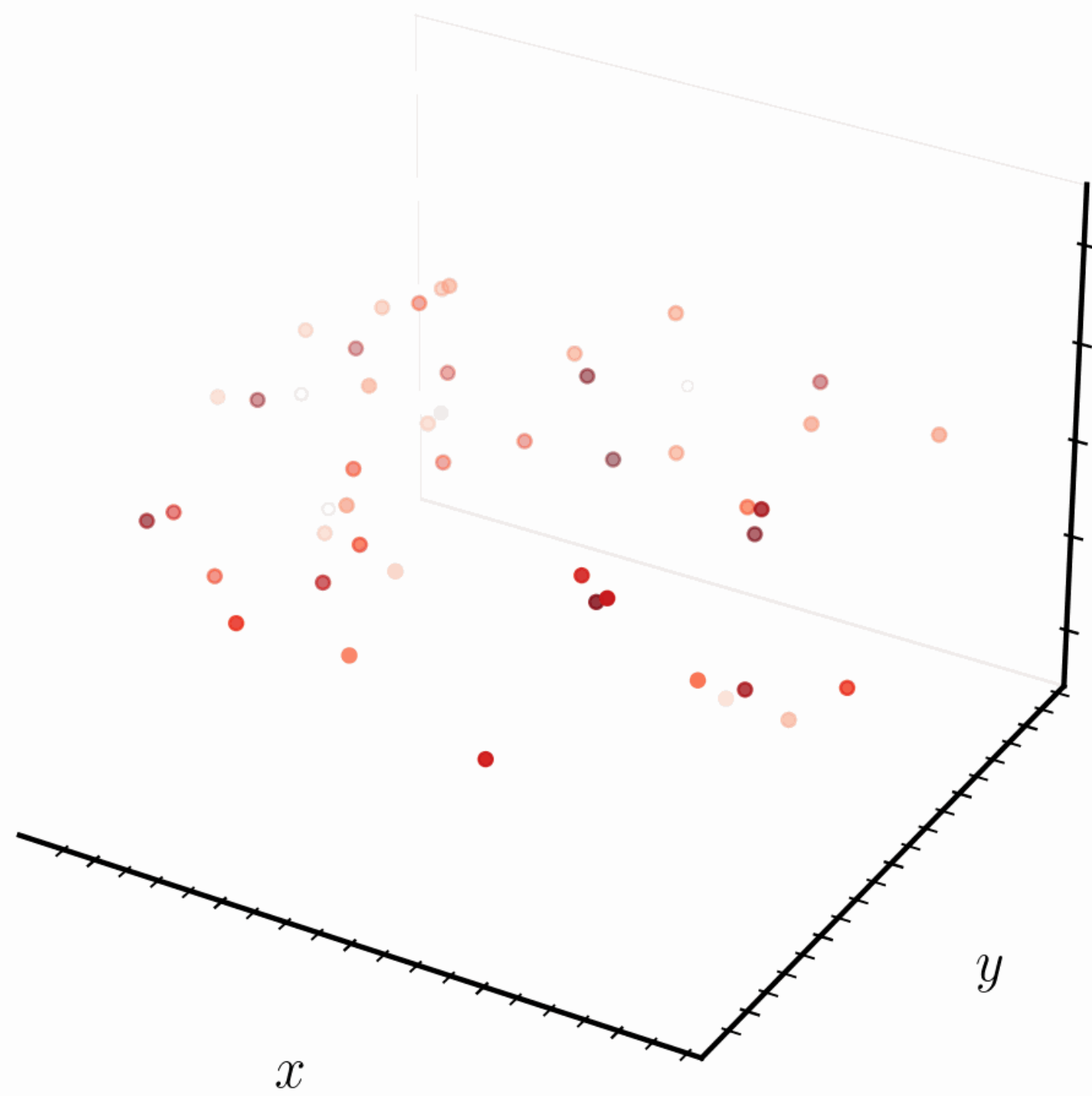
**"Difficult to model"  $x$**



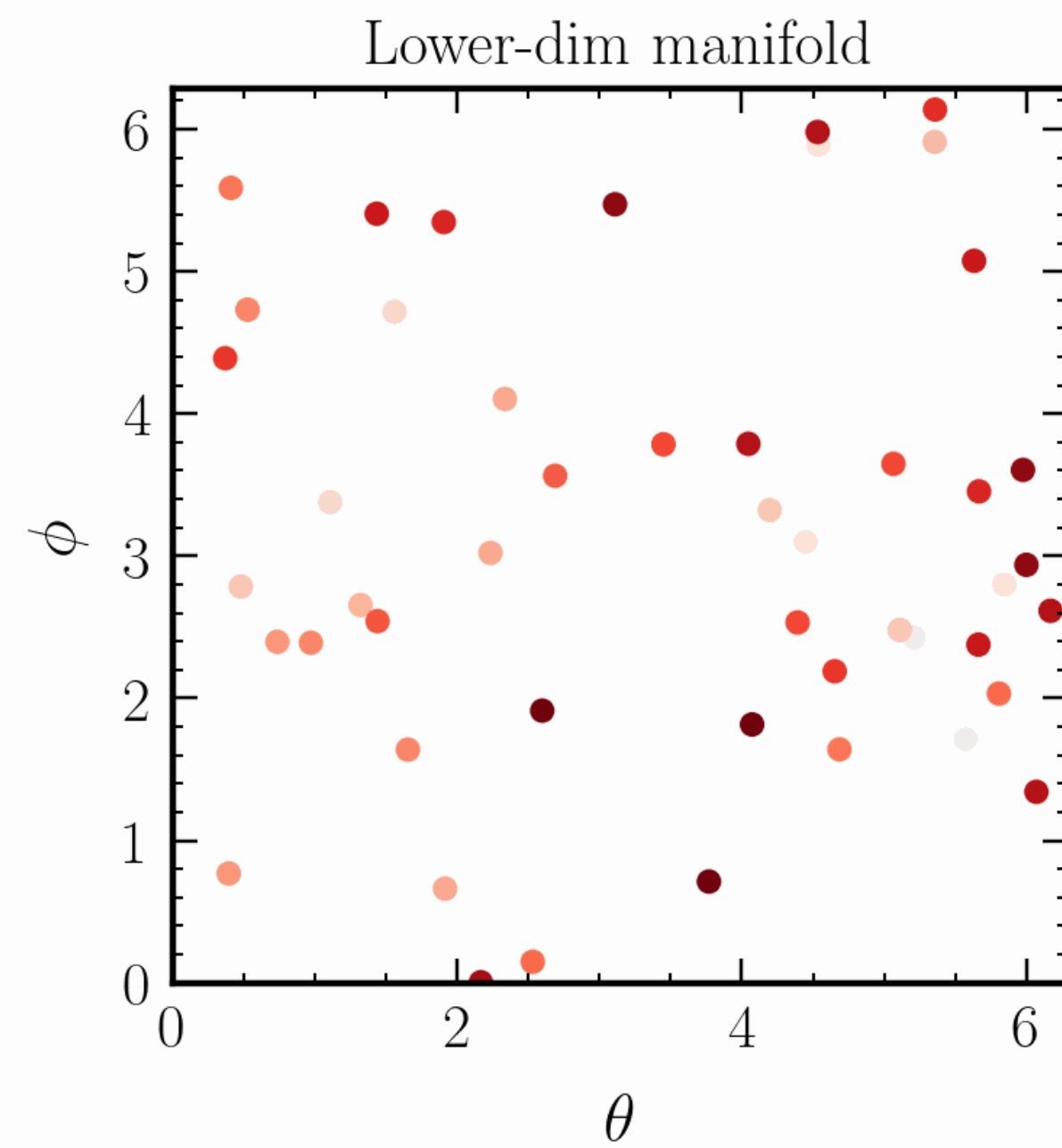


$z$





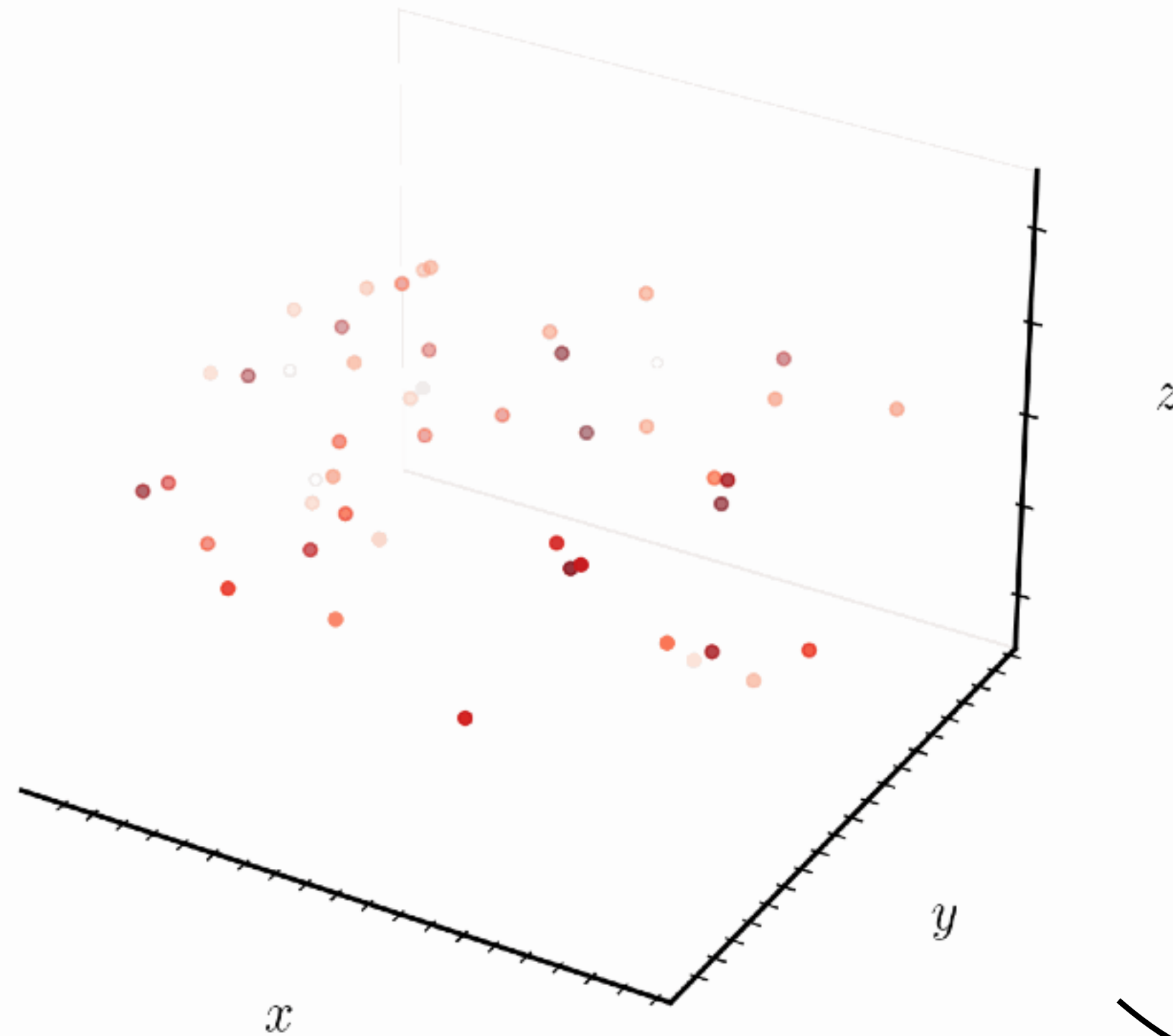
$z$



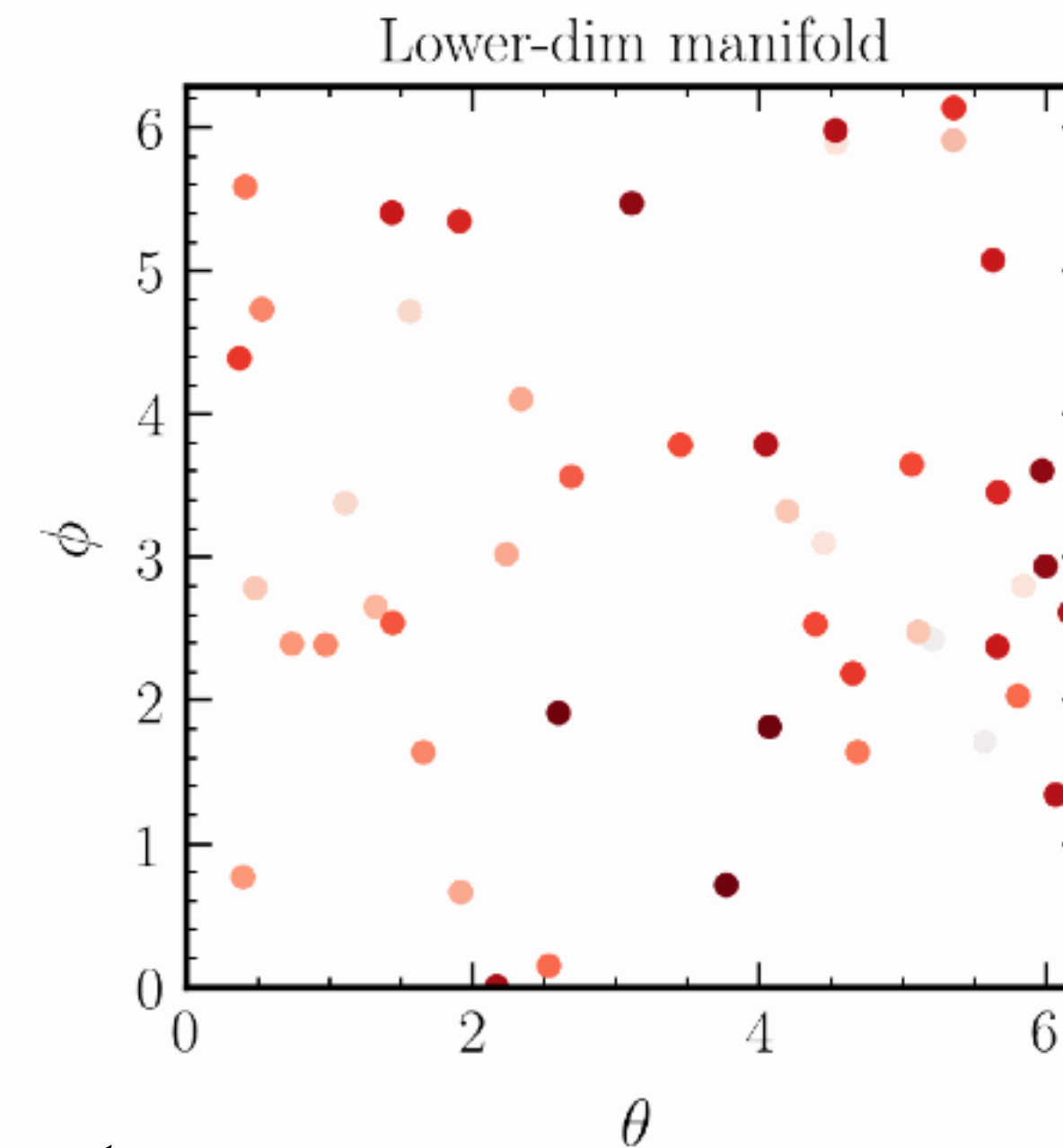
# The pursuit of low-dimensional structure

Real-world datasets often live in structured low-dimensional manifolds

“Difficult to model”  $x$



“Easy to model”  $z$



$p(z \mid x)$

# Latent-variable modeling

Learn lower-dimensional structure in the data distribution

