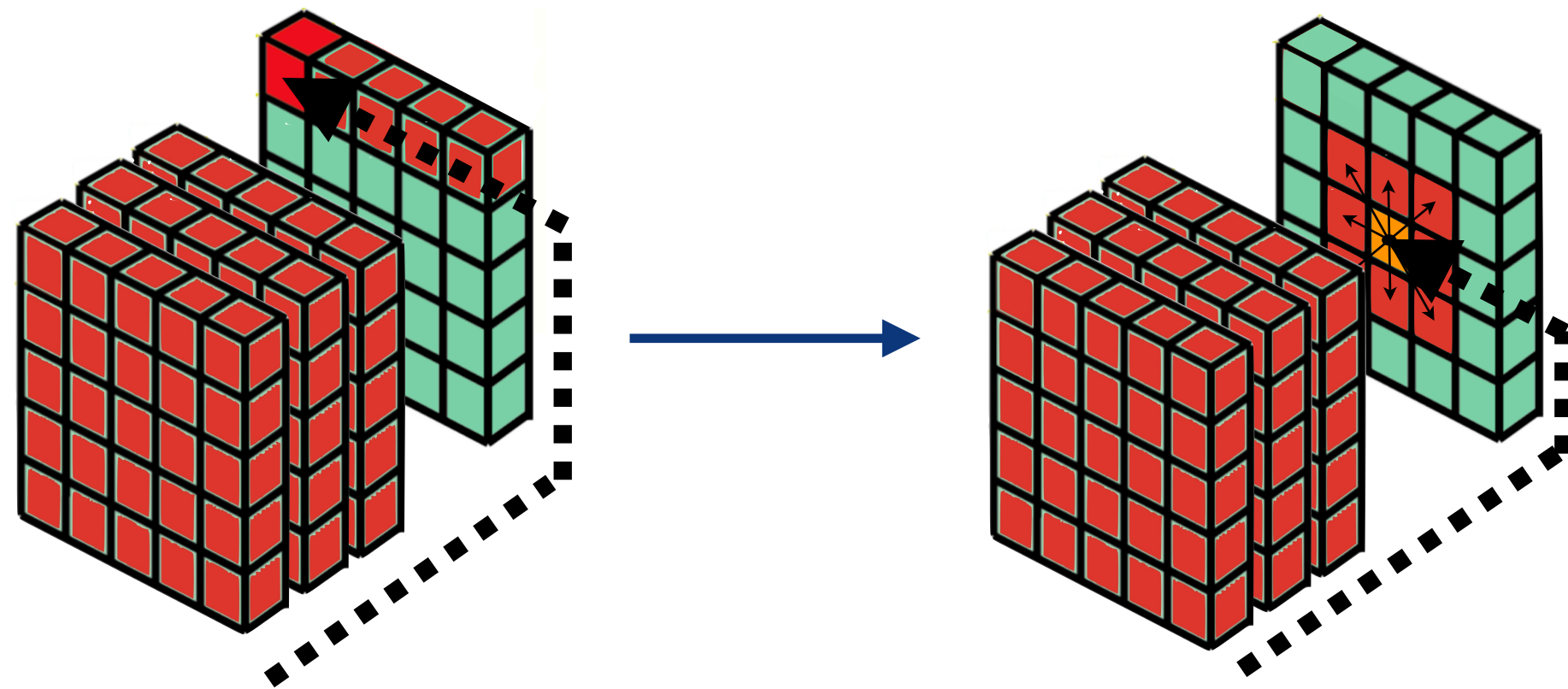# Deep Autoregressive Networks For Fast Simulation
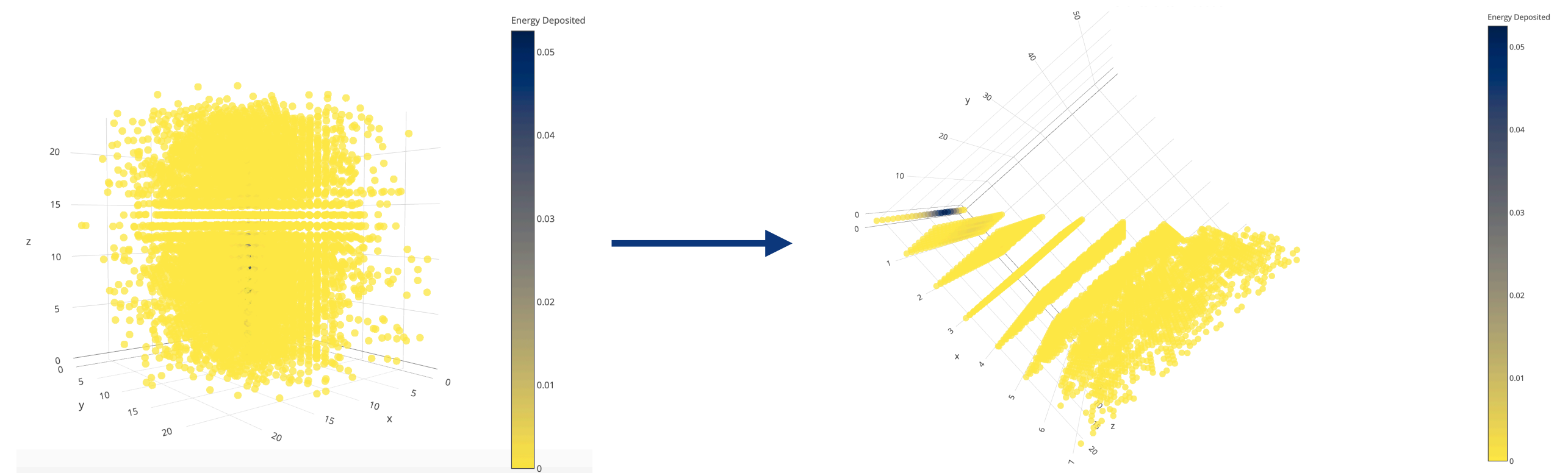
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Network Developments

Information Propagation Changes

Shower Representation Changes

- So far, tests have been performed on classical shower representation. However, the convolutional masks were not following the shower development from a physics perspective

- By reindexing the cells, to follow the radius of energy from the centre, we describe cell dependencies more accurately. Here, the row number represents the radius size of the data points

- The result of shower representation changes implied a network restructuring in order to deal with the new format of data (8,56,24)

- The loss function was purely based on a probabilistic approach, however, the need for physics information needed to be imbedded into the prior