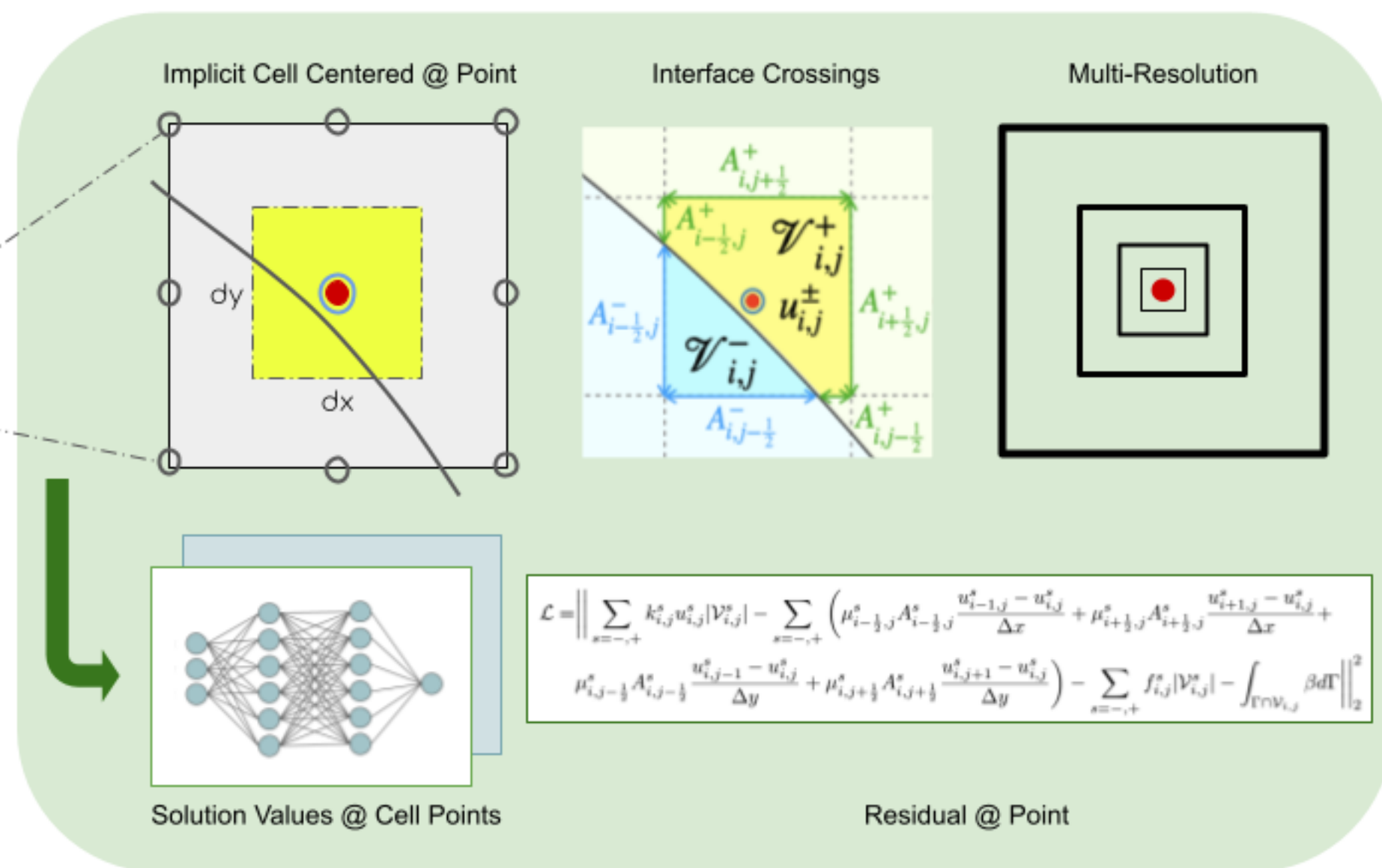
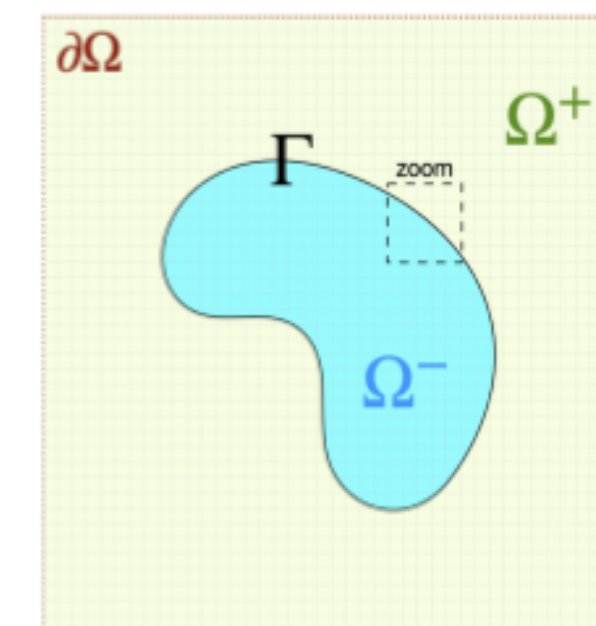


Random Collocation Points

Pointwise Finite Discretization Residual Kernel



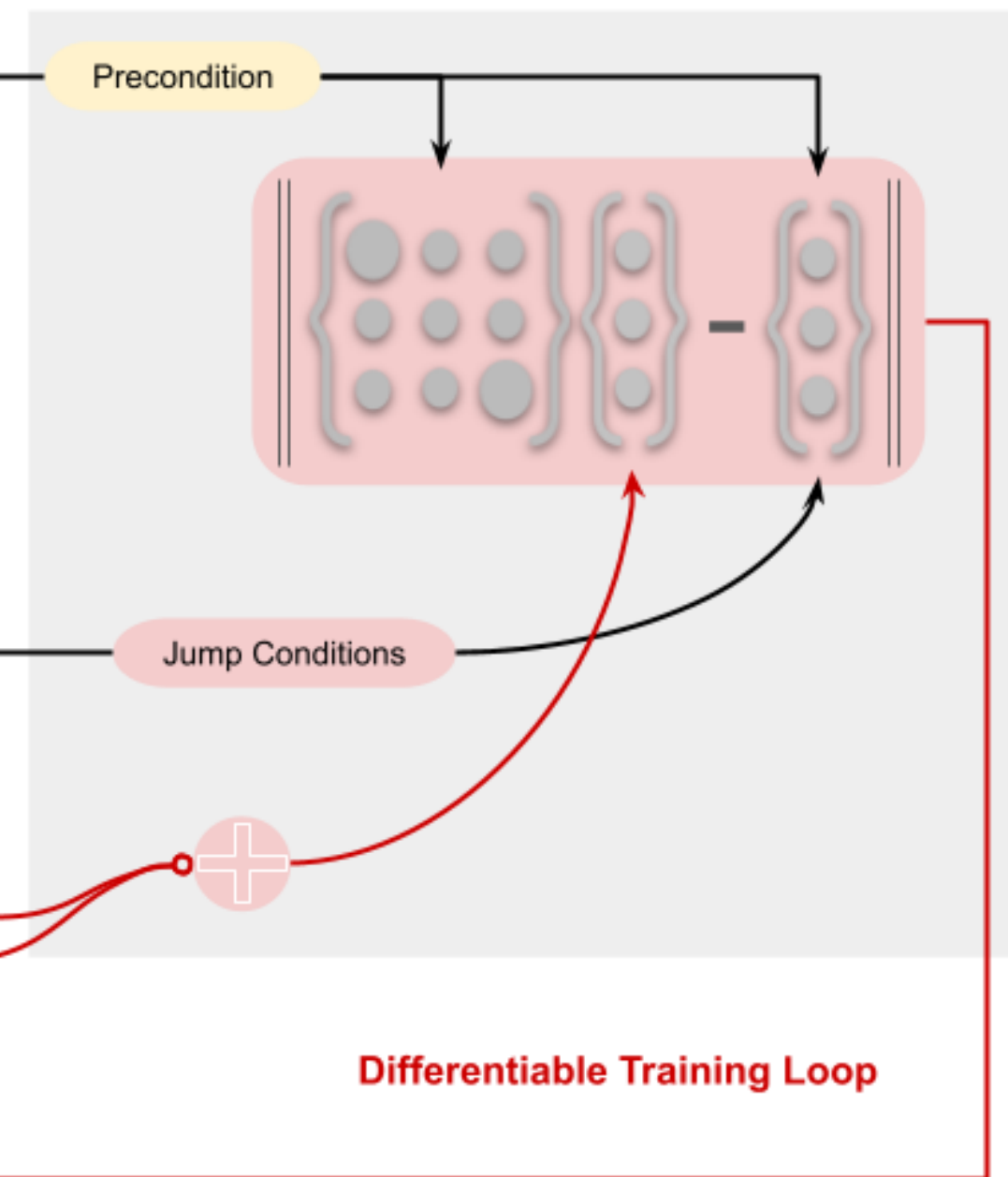
Mesh Oracle



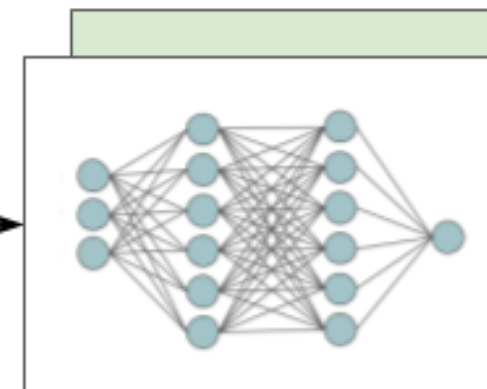
Mesh Data Structures



Assemble Linear System Residual

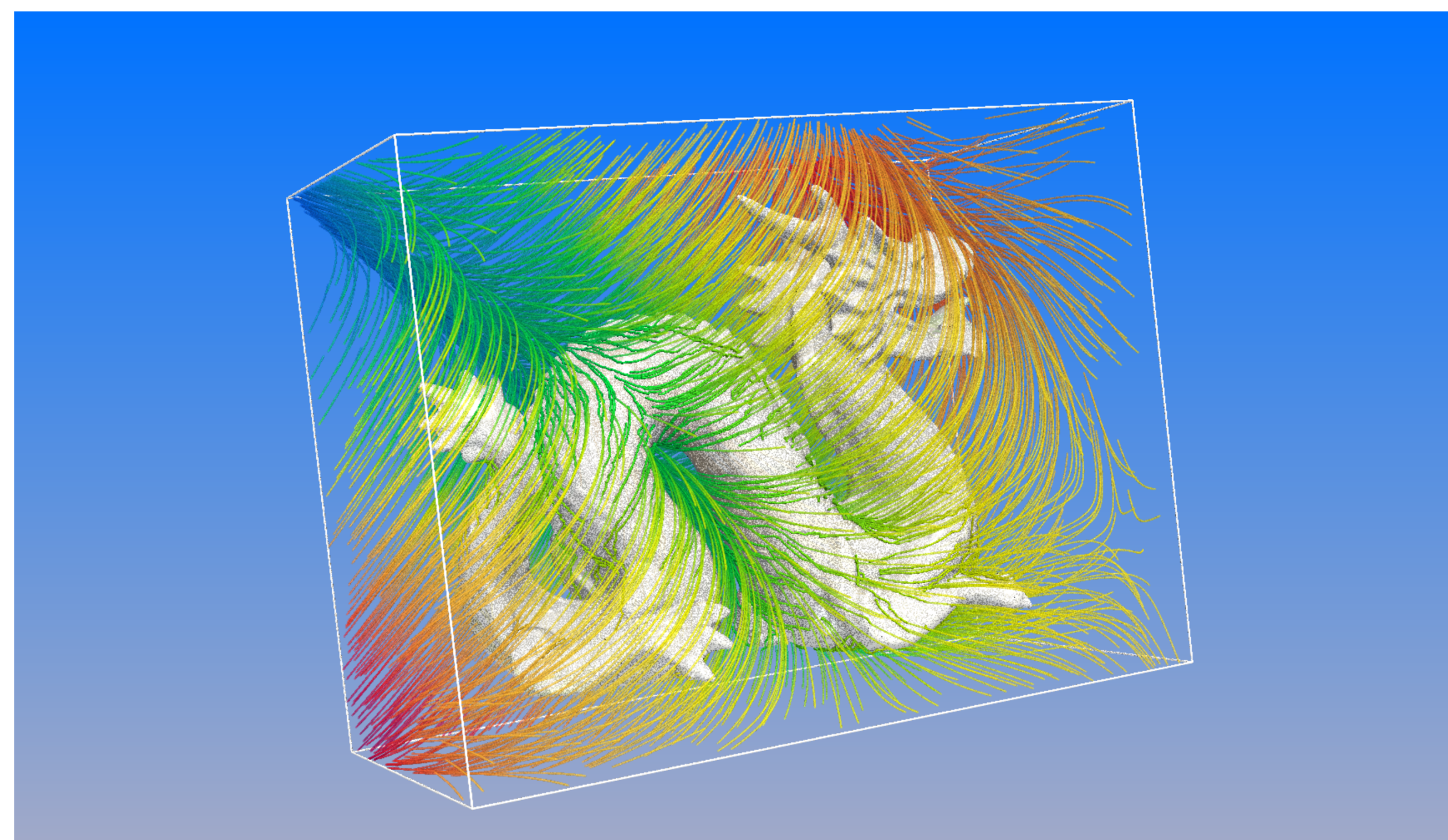


Surrogate Neural Model

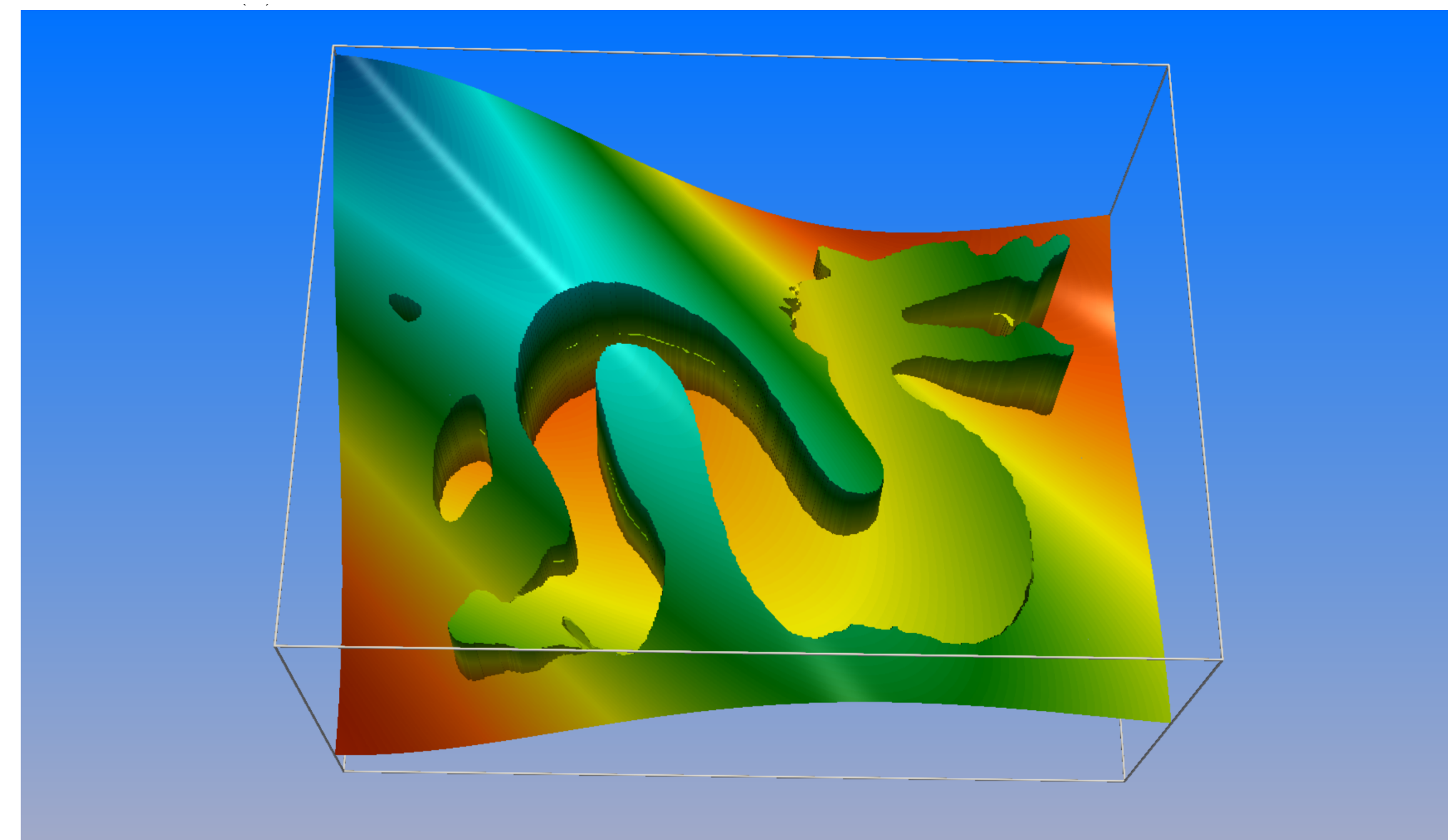


Training Layout

Kernels compute the residual contribution at each random point



Once trained, evaluation of large 3D simulations takes milliseconds



Readily captures physically correct jump conditions