

# Introduction

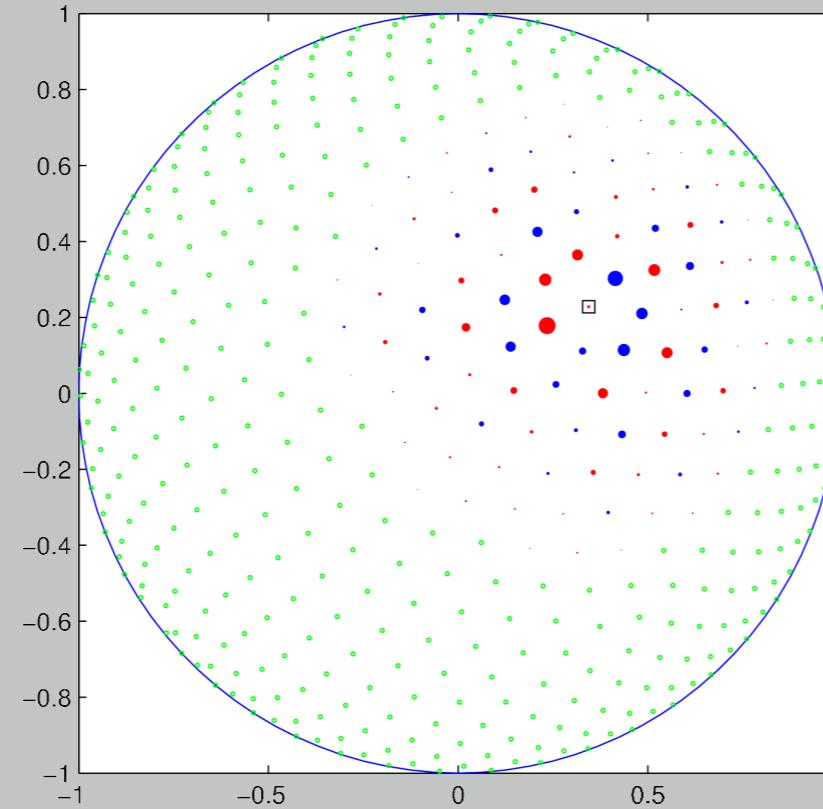


Figure 1: A 75 node RBF-FD stencil with blue (negative) and red (positive) differentiation weights to approximate advective operator at the square.

We introduce a multi-CPU/GPU implementation for the solution of hyperbolic PDEs on a sphere using Radial Basis Functions (RBF). This work targets the NSF funded Keeneland GPU cluster, which—like many of the latest HPC systems around the world—offers significantly more GPU accelerators (360 units) than CPU counterparts (240 units). We present our parallelization strategy, algorithms and data-structures used to span computation across the system.