1176-65-130   **Andreas C Aristotelous*** (`aristotelous@uakron.edu`), **Edward C Mitchell** and **Vasileios Maroulas**. *An Efficient Adaptive Sampling Deep Learning Galerkin Method.*

We devise an adaptive sampling technique applied to the deep Galerkin method (DGM), aimed to improve and speed up the training of the deep neural network when learning the solution of partial differential equations (PDEs). The proposed adaptive algorithm is inspired by mesh adaptivity techniques used in the classical numerical PDE field. Its implementation to the DGM paradigm is natural, is done efficiently, and it is shown to improve the DGM algorithm. We present tests applied to selected PDEs discussing the robustness of our scheme. (Received January 18, 2022)