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Ohannes Karakashian and **Craig D. Collins*** (craig.collins@math.utk.edu). *Two-level Schwarz Methods for Discontinuous Galerkin Approximations of Second Order Elliptic Problems.*

We present some two-level non-overlapping and overlapping additive Schwarz methods for solving second order elliptic problems. It is shown that the condition numbers of the preconditioned systems are of the order $O(\frac{H}{h})$ for the non-overlapping Schwarz methods, and of the order $O(\frac{H}{\delta})$ for the overlapping Schwarz methods, where h and H stand for the fine mesh size and the coarse mesh size respectively, and δ denotes the size of the overlaps between subdomains. Numerical experiments are provided to gauge the efficiency of the methods and to validate the theory. (Received September 15, 2014)