# Answers to Reviewer #2

Ms. Ref. No. JCOMP-D-13-00928
Discontinuous Finite Element Solution of the Radiation Diffusion Equation on Arbitrary Polygonal Meshes and Locally Adapted Quadrilateral Grids
*Journal of Computational Physics*,

This paper describes a new approach to the solution of the radiation dffusion equation on arbitrary polygonal meshes and meshes consistent with adaptive mesh refinement (AMR), using a discontinuous finite element approach with the symmetric interior penalty technique. My recommendation is that this paper be published after some minor revisions. The author does a great job making clear the distinct contribution of the paper and distinguishes this research from that performed previously.

Thank you

There is no mention anywhere in the paper that one downside of discontinuous finite element methods, when compared with continuous finite element methods, is the much greater number of unknowns. This should be pointed out, and if there is a computational expense associated with this increased number unknowns, it should be discussed.

Thank you

There is no investigation of the effect of the user supplied parameters in the symmetric interior penalty (SIP) technique, nor is there any discussion of whether the results that are obtained are sensitively dependent on these choices. Do the results obtained require the choices of C and h? made by the author? Will other choices lead to poorer or better performance?

Thank you

A list of typographical, grammatical and notational errors follows. Note: page numbers are those in the document provided to the reviewer, not those provided by the author.

Thank you for pointing them out and for the thorough review. We have corrected them.