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Dear Colleagues,

It is a pleasure to recommend Evan Anders for the NASA Earth and Space Science Fellowship (NESSF) program. Evan is a fourth year graduate student in the Department of Astrophysical and Planetary Sciences (APS) at the University of Colorado, Boulder. Evan is an extremely gifted graduate student; Evan has performed well in his course work within the APS department (including classes that I have taught), and in his research. Evan has been working with me since May 2015, studying convection and dynamics in the solar interior and in particular the transport of heat by turbulent, stratified convection. Evan is a gifted numericist and solar theorist, with strong skills in supercomputing, data analysis, and analytic approaches to problems. Evan has extensive experience using the Dedalus pseudospectral framework in his research. Evan has completed all of his graduate coursework and comprehensive exams, achieving highest honors on his Masters level research project (Anders & Brown 2017, PhysRevFluids). Evan is well-poised to begin the research proposed here.

Evan has proposed a novel project for his NESSF supported research "Towards a more complete understanding of solar convection". His proposed work will help directly resolve a significant conundrum in solar theory. Namely, why don't we see giant cells of convection at the solar surface, or beneath it with helioseismology? His work will help answer which mechanisms are selecting the scale of convection, and his work will help explain why motion on the scales of giant cells is either hidden, or never driven in the first place. This is a crucial issue for the solar dynamo and builds on Anders & Brown (2017). Evan came up with this project on his own and wrote this proposal single-handedly.

In summary, Evan has proposed a novel and interesting project which will answer important questions about the nature of deep solar convection which powers the solar dynamo. Evan has significant computational and mathematical skills, which make him very well suited for successfully achieving the proposed research. I strongly recommend Evan Anders for the NASA NESSF and very much look forward to working with him on this research.

Benjamin Brown 

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