

## Current and Pending Support, David C. Collins

### *Current Funding*

**Project Title:** Magnetic Fields in the Formation of Molecular Clouds, Filaments, and Cores

**Project PI:** D. C. Collins

**Program Name and award number:** NSF AAG AST-1616026

**Period of Performance:** 09/01/2016 - 08/31/2020

**Amount** \$298,492

**FTE:** 1.0 Month/year

**Summary of Work:** This project is studying the gravitational collapse of molecular clouds using simulations of magnetohydrodynamical turbulence.

**Project Title:** Modeling CMB polarization foregrounds and their isotropy violation

**Project PI:** K. Huffenberger

**Program Name and award number:** NASA ATP NNX17AF87G

**Period of Performance:** 01/08/2017 - 02/02/2021

**Amount** \$428,043.00

**FTE:** 1.0 Months/Year

**Summary of Work:** In this project, we are modeling the CMB foregrounds using a number of techniques, including an analytic filament model and simulations. The proposed work continues and extends the researching ongoing in this project.

**Project Title:** Signatures of Type Ia Supernovae Explosions and their Cosmological Implications

**Project PI:** P. Hoefflich

**Program Name and award number:** NSF AAG AST-1715133

**Period of Performance:** 10/01/2017 - 09/31/2021

**Amount** \$460,498.00

**FTE:** 0.0 Months/Year

**Summary of Work:** In this project, we examine the role of magnetic fields in Type Ia supernovae. There is a synergistic overlap with the proposed work in the shared use of high performance computing software and resources.

### *Pending*

**Project Title:** CMB Polarization Foreground Effects on B-modes and Lensing

**Project PI:** K. Huffenberger

**Program Name:** NSF AAG

**Period of Performance:** 08/01/2020 - 07/31/2023

**Amount** \$533,714

**FTE:** 1 Month/Year

**Summary of Work:** This work will develop analytic and numerical models of the microwave ISM. We will use these tools to understand the contamination by the local ISM to lensing and CMB observations.