Proposal Status | MAIN

Organization: University of Hawaii

Review #2

Proposal Number:	1211356
NSF Program:	Extragalactic Astronomy and Cosmology Program
Principal Investigator:	Barnes, Joshua E
Proposal Title:	Merger Modeling with IDENTIKIT
Rating:	Very Good

REVIEW:

What is the intellectual merit of the proposed activity?

The use of numerical simulations for quantitative and detailed analysis of colliding/merging galaxies has never quite lived up to its promise due to the simple fact that parameter space is so vast that only small volumes can be explored. The author requests support to complete upgrades to IDENTIKIT 2, a package that will greatly shrink the parameter space for disk-disk interactions (possibly disk-spheroidal too) in a quasi-automatic and quantitative way (i.e., with confidence and uniqueness estimates). This will be a powerful addition to the tool kit available to observers. The author is a leader in the field with a long record of excellent work. The author has access to ample resources, both in terms of students and hardware.

What are the broader impacts of the proposed activity?

The proposal will also support a web-based interface for IDENTIKIT 2 but will also make the software available for downloads. The project also provides training for graduate students. A version of this software will be used in K-12 education and outreach in Hawai'i.

Summary Statement

The work supported by this grant promises to greatly help astronomers use numerical simulations to understand interacting galaxies by greatly (and quantifiably) identifying the small subset of parameter space that is most consistent with the system's structure and kinematics. IDENTIKIT 2 will be available for use on-line or via download.

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