

THE CHINA-CHILE BULGE (CCB) POSTDOC PROJECT

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(1) Abstract

The Galactic bulge is key to understanding the structure, evolution and birth of our galaxy. By analysing it we can probe the origins of our galaxy, but also the important role it plays in shaping the state of the Milky Way today. In order to study the history of the bulge in detail, ages are crucial. Existing large spectroscopic surveys, all of which target red giant or red clump stars, are unable to constrain ages due to degeneracies. The postdoc will work on a spectroscopic survey being led by Chinese PI Martin C. Smith, circumventing these problems by observing main-sequence turn-off and sub-giant branch stars, for which reliable ages can be determined. Data for a pilot survey has already been obtained and so the postdoc can immediately work on important science, while simultaneously applying for further data from Magellan/M2FS. The Chilean Co-PI is Dante Minniti, who is leading the VISTA Variables in the Vía Láctea (VVV) public ESO near-infrared survey of the inner Milky Way. The postdoc will spend the first year in Chile using VVV photometry to improve future observing campaigns. The second year will be spent in China modelling the data with the help of experts in Shanghai. The final year will probably be spent back in Chile, obtaining more data and continuing to use the tools developed during the year in China. The two PIs have also been awarded a China-Chile Joint Research Fund and so this postdoc will be an integral part of this project.

(2) Project Proposer and Collaborator

The project is proposed by Prof Martin C. Smith (Shanghai Astronomical Observatory), in collaboration with Chilean PI Prof. Dante Minniti (Universidad Andres Bello). Smith has a varied background focussed on the exploitation of spectroscopic surveys of the Milky Way, working with some of the major surveys of recent years (e.g. RAVE, SDSS, LAMOST). Minniti is PI of the VVV near-infrared survey of the inner Milky Way and an expert on the Galactic bulge.