Research Proposal for DAAD PhD scholarship

The Gaseous Cosmic Web

Sebastian Bustamante Jaramillo

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1 General Information

Information of the Applicant

Name	Sebastian Bustamante Jaramillo
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More detailed information of the applicant can be found here `http://goo.gl/BPZGzK`

Information of the Project

Title	**The Gaseous Cosmic Web**
Field	Cosmology, Astrophysics, Physical Sciences
Advisor 1	Volker Springel, PhD. Heidelberg Institute for Theoretical Studies, Germany
Advisor 2	Jaime Forero-Romero, PhD. Universidad de los Andes, Colombia
University	University of Heidelberg, IMPRS PhD program
Time Frame	3 years

2 Abstract

3 Introduction

Since the filamentary structure of the large-scale universe (the so-called cosmic web) was observationally evidenced by the first compiled galaxy surveys (Chincarini & Rood, 1975; Gregory & Thompson, 1978; Einasto et al., 1980a,b; Kirshner et al., 1981, 1987), an increasingly interest in studying its dynamical properties and its influence on a plethora of different astrophysical processes has become evident. First theoretical results, leaded by the seminal work of Zel'dovich (1970), are highly consistent with the cosmic web picture, where planar pancake-like regions of matter enclose enormous sub-dense voids and are bordered by thin filaments and high-density clumpy knots.

4 Justification

5 Objectives

6 Literature and Research Review

7 Methods

8 Expected Results

9 Bibliography

References

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