Preface

The understanding of circumstellar disks and planets is a rapidly evolving and exciting field of modern astrophysics. Classically, most observational evidence was collected using radial velocities surveys, broad band photometry or spectroscopy. High angular resolution observations using the Hubble Space Telescope, adaptive optics systems and submillimeter interferometry unveiled complex disk morphologies, gaps, and winds. More recently, the exquisite angular resolution of modern near- and mid-infrared interferometers pinpointed the dust sublimation walls of disks and resolved grain growth in their planet forming region.

In this book lectures are compiled which where given during the summer school on "Circumstellar Disks and Planets at Very High Angular Resolution". This summer school was held from 28$^{\text{th}}$ May to 8$^{\text{th}}$ June 2007 near Porto, Portugal. It was organized within the frame of the "ON THE FRINGE" program * which is funded through the Marie Curie Action (conferences and training courses).

The goal of the school was to present an overview of the field of protoplanetary disks and the process of planet formation covering both the physical mechanisms, and high angular resolution observational techniques – such as adaptive optics, millimeter and optical interferometry. The main focus was on interferometry, given the importance of the Very Large Telescope Interferometer and the future Atacama Large Millimeter Array for circumstellar disk and planet formation studies. Practical sessions were centered on proposal preparation for the Very Large Telescope Interferometer.

This book is organized as follows: In Chapter 1 an introduction into the physics of circumstellar disks is provided, followed by a theoretical picture of planet formation (Chapter 2). A general overview about observations of protoplanetary disks and planets – via interferometry and beyond – is given in Chapter 3. In Chapter 4 interferometric data processing is described, while practical aspects of interferometric observations are outlined in Chapter 5.

We wish to thank the lecturers for their very well-received presentations, for their many discussions with the students and for their contributions to this book. Special thanks go to the referees of each individual chapter. Furthermore, we would like to thank the members of the Scientific Organizing Committee for their help in the preparation of the summer school and the members

* httt://www.vlti.org

of the local organizing committee for their efforts "behind the scene" to make this summer school a success.

We hope that this book will provide newcomers in the field of interferometric observations of protoplanetary disks a valuable introduction.

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Fig. 1. Participants of the Workshop