PREFACE

Although a wide variety of astrophysical objects produce powerful jets, a comprehensive physical theory of their formation is still lacking. In late march 2005, a group of experts in theory, simulation, and observation convened in Cozumel, México, to discuss the general ways by which gravity, spin and the electromagnetic field can combine to power some of the most extensively observed high energy phenomena in astrophysics.

The meeting focused on accretion and relativistic winds and jets in microquasars, magnetars, gamma-ray bursts and quasars. Particular importance was given to the interactions between outflows and accretion in an attempt to better understand how these prime movers are able to release energy from the accreting gas and the spin energy of the black hole. This volume presents fourteen refereed contributions from some of the participants to the meeting, covering the topics addressed during the week. An accompanying compact disc contains an additional twenty non-refereed presentations.

The conference was attended by nearly 90 researchers and students from Canada, France, Germany, Israel, Italy, México, the Netherlands, Poland, Spain, the United Kingdom, and the United States. We gratefully acknowledge support from the following institutions, which made the meeting possible: Instituto de Astronomía, UNAM; Dirección General de Asuntos del Personal Académico, UNAM; Coordinación de la Investigación Científica, UNAM; Consejo Nacional de Ciencia y Tecnología; Instituto Nacional de Astrofísica, Óptica y Electrónica. In addition, we are immensely grateful to the members of the Scientific and Local Organizing Commitees, who helped make the meeting a success.

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