

Preface

It may be folly to take time out to write a book during the turbulence of a revolution. Many basic facts in the field of star formation are not being established but being ousted. Standard scenarios which were widely accepted are now being re-worked into a fresh emerging picture.

The purpose of this book is to describe the methods, results and theory surrounding the birth of stars so as to make the entire subject accessible within a single volume. I give high priority to ease of access to all interested in understanding a vital part of our origins. The hope is that the fascinating story of star birth, with the contentious issues and the conflicting interpretations, will hold the attention of the reader to the finish. Thus, the book is meant to be self-contained and, as far as possible, self-explanatory.

It may be wise to record the changes made up to this moment and to stimulate the directions for further progress. The field has become popular for research because we have found techniques to penetrate the birth sites. It is still only just possible to cover the entire subject in one volume, placing all the observations and models within a broad and unifying overview without, hopefully, a biased or over-convinced approach.

My wish is to make it possible for the average science reader to understand how stars are conceived, born and grow towards adulthood. The book can be read as an introduction or as a guide but not as a complete reference manual. A modest amount of mathematics cannot be avoided although, through quantification and explanation around the equations, I aim to permit the determined reader to reach a level from which new data and new interpretations can be confidently evaluated.

This book represents the work of an entire community of star formation researchers. I have merely tried to accumulate, communicate and explain. It would be unfair to credit the contributions of specific individuals. How-

ever, I would like to thank my close colleagues Mark Bailey, Chris Davis, Mordecai Mac Low and Hans Zinnecker for their encouragement and Peter Brand, Dirk ter Haar, Colin Norman, Harold Yorke and the late Dennis Sciama for their guidance over the years.

Above all, I cannot praise enough my wife Daniela for insight and inspiration. Daniela is with me in everything I do.

Michael D. Smith