

Foreword

Rare is the telescope design that languishes in near total obscurity and yet displays such exquisite performance as that invented by Ludwig Schupmann. His remarkable discovery, at the end of the 19th century, was that it is possible to achieve color correction equivalent to an all-reflecting telescope with a single-lens objective followed by a smaller corrector lens-mirror combination placed beyond the focus of the objective. However, to this day very few telescopes based on his principle have been made and most of those have been by advanced amateurs. Unlike the Newtonian telescope, the Schupmann principle has shown an ability to delight optical designers with its many variations; there is an ideal solution for planetary and lunar observing, there is a perfect solution for coronagraphic optics which can reveal solar prominences without expensive narrowband filters, and there is an all-spherical design.

It continues to offer surprises—for example, only in recent years has a wide-field low- f /number variation been discovered that is capable of outperforming existing astrographic cameras. If Ludwig Schupmann is the inventor of this remarkable telescope, Jim Daley could be called its perfector. No one has built more models or dedicated more of his life to promoting this instrument. His production line has brought to light a 7-inch in 1969, a 4-inch in 1973, a 6-inch in 1984, a 7-inch in 1988, an 8-inch in 1990, a 9.4-inch in 2002 and as this book goes to press in 2006 a 13.1-inch! His greatest pleasure with the Schupmann telescope is using it to measure double stars and having his results consistently accepted by professional publications.

This is a backwater astronomical pursuit that attracts few followers, but an important one, because it allows astronomers to improve their understanding of the relationship between stellar masses, measurable only by observing binary stars, and spectral classification. To help promote interest in and understanding of this telescope design Jim decided to publish a bulletin which appeared as three issues between 1966 and 1971. Later, it became clear that all the information known about the Schupmann telescope, from historical to fabrication to operation, should be brought together under one cover which he titled, *Amateur Construction Of Schupmann Medial Telescopes*, privately published in 1984.

In the present book Jim weaves a thorough and detailed account of this versatile telescope design, including the most recent innovations. The latest chapter in the Schupmann story takes us back to Europe and a variation of the Schupmann principle in which the corrector lens-mirror is placed before the focus of the single

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objective lens. Even though Schupmann claimed in his patent that this variation was capable of excellent color correction, the earliest attempts at fabricating such a design were unsuccessful due to poor workmanship. Klaas Honders, an ATM in Amsterdam, changed all that when he discovered a design with excellent performance, yet he thought it impractical to build and put it aside for over ten years. Finally, using more advanced optical design software, he found he was able to vastly improve his earlier versions to the extent that, with only three elements, the new designs exceeded the performance of most astrographs, a remarkable discovery. One is drawn to ponder what other designs lay hidden in the concept—the exploration has barely begun.

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author of *Russell W. Porter, Arctic Explorer, Artist, Telescope Maker*