PREFACE

This booklet, published annually, is the continuation of the series of volumes "Apparent Places of Fundamental Stars", (APFS) which was first published in 1941. The compilation and publication of the first nineteen volumes was undertaken by H. M. Nautical Office, Royal Greenwich Observatory. In accordance with a recommendation of the I.A.U. (Dublin meeting 1955) this task was taken over by the Astronomisches Rechen-Institut, Heidelberg, from the twentieth volume onwards. Starting with the edition of the year 2000, the extensively large books were replaced by the present small booklet. Starting in 2006 only the introductory remarks concerning the CIO-based (celestial intermediate origin) and the equinox-based method are provided. The apparent places for 64 stars reduced with the equinox-based method are given in the printed version; the data for 878 fundamental stars (FK6) and for Polaris are provided via the Internet in consideration of both methods (http://www.ari.uni-heidelberg.de/ariapfs). IAU 2000/2006 precession-nutation is used for intermediate and apparent positions. The underlying precession-nutation model is recommended by IAU 2006 Resolution B1.

Since the year 2000 the apparent and mean places have been based on the so-called single-star solution of the Sixth Catalogue of Fundamental Stars (FK6, Wielen et al., Veröff. Astron. Rechen-Institut, Heidelberg, No. 35, 1999). This catalogue is on the astrometric system defined by the HIPPARCOS catalogue (ESA SP-1200, 1997), which has been adopted as the primary celestial reference frame at optical wavelengths since 1998 (*Trans. IAU,* **23B**, 39, 1999). In FK6 we have improved the HIPPARCOS proper motions by combining the HIPPARCOS observations with the data given in FK5.

In the online version we provide the intermediate and apparent places reduced by the *CIO-based* and by the *equinox-based* method, which differ only in right ascension. The entries corresponding to sidereal days divisible by ten (corresponding in the printed volumes) are marked by an asterisk.

Intermediate and apparent places can also be obtained conveniently within the framework of the "German Astrophysical Virtual Observatory" (GAVO). The corresponding web page is accessible via the ARI APFS web pages or directly by http://vo.uni-hd.de/apfs. Apparent and intermediate places for 878 stars of the FK6 Part I and 3272 stars of the FK6 Part III can be retrieved conveniently. This service is completed by Hipparcos-based apparent and intermediate places of additional stars, and by using data from Gaia Data Release 3 (https://www.cosmos.esa.int/web/gaia/dr3; Gaia Data Release 3: Summary of the contents and survey properties, Gaia Collaboration (Vallenari, A., Brown, A. G. A., et al. 2023, A&A 674, A1). A facility to compute the Earth Rotation Angle (ERA), Greenwich Apparent Sidereal Time (GAST) and Greenwich Mean Sidereal Time (GMST) is available on a related web page. Some introductory remarks and references can be found in the corresponding service info. Any comments would be appreciated.

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