

## APPARENT PLACES OF FUNDAMENTAL STARS.

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The International Hydrographic Bureau has received two volumes of "Apparent Places of Fundamental Stars" for the years 1946 and 1947, published by order of the Lords Commissioners of the British Admiralty, and produced by international co-operation under the auspices of the International Astronomical Union. This new publication is very useful to all surveyors and geodetists for the determination of geographical positions by equal altitude methods.

The more accurate apparent positions of 1,535 stars are given at upper transit at Greenwich, thus avoiding long calculations. The stars are arranged according to their mean right ascension at the beginning of the year. At the bottom of the page, the catalogue of origin of positions is given. These five catalogues are the following :—

*Almanaque Nautico*, San Fernando (Spain) ;

*American Ephemeris*, Washington (U.S.A.) ;

*Berliner Jahrbuch*, Berlin (Germany) ;

*Connaissance des Temps*, Paris (France) ;

*Nautical Almanac*, London (Great Britain).

Apparent positions of stars are given for every 10 days including 3 places of decimals for right ascension and 2 places of decimals for declination, also the corresponding first differences, except for declination exceeding  $\pm 60^\circ$ , in such case the right ascension is given only to 2 places of decimals.

Mean places of the same stars for the beginning of the year are given in a first table with their annual variations and annual proper motions for the middle of the year, also the mean errors for the beginning of the year. Special tables give for each day of the year the apparent places of northern circumpolar stars and southern circumpolar stars for declinations exceeding  $\pm 81^\circ$ .

At the end of the volume, Table I gives short period terms of nutation, in longitude and in obliquity required for the correction of the apparent places, given in the main table.

In Table II are given for each day at 0 hour G.M.T. the apparent sidereal time, the mean sidereal time and long periods and short period terms of nutation in right ascension.

Tables III and IV provide conversion of mean solar to sidereal time and conversely.

Conversion of hours, minutes and seconds to decimal of a day is given in Table V.

Table VI facilitates the use of second differences corrections to apparent places of stars.

Table VII permits the diurnal aberration for the time of transit of stars to be taken into account.

At the end of the volume, an index enables the page upon which the apparent place of any star is tabulated to be found from a knowledge of the star's name alone, also their catalogue number, the constellations are arranged alphabetically.

An introduction concerning all necessary information and the data concerning the various tables is given in english, french, german and spanish.

