

‡5 **DIO Volume 3's 1004-Star Tycho Catalog**

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DIO's entire 1993 output (*DIO* 3.1-3) was devoted to the first critical edition, ever, of Tycho Brahe's justly famous 1004-star catalog (which *DIO* calls "catalog D").

From our preface to this monumental work:

This *DIO* triple-issue represents the first formal critical edition of catalog D (epoch 1601.03), which has until now been the only great pretelescopic star catalog not thusly made available to modern scholars. Provided for the first time: a numbered listing of all 1004 stars' cat D positions (O), their real (C) positions (mean E&E 1601.03), as well as their O–C errors (in both ecliptical & equatorial frames). Our cat D establishes new standards for modern editions of antique star catalogs, including in particular: [a] Identification of every single one of the 1004 star-entries in cat D (Table 21). [b] Listing each star's (null dust&water) culmination-postextinction magnitude μ (also Table 21). [c] Spotlighting of all stars where $\mu > 6$ (Table 18). [d] Providing (Tables 21-23) the great-circle O–C errors for non-great-circle coordinates (longitude λ & right ascension α). [e] Computation of not only error standard deviations (Tables 5-17) but error medians (Tables 1-4). [f] Tabulated least-squares-fits (of constant & of 3-unknown-sinusoid) to catalog errors (Tables 9-12). [g] Individual investigation (by consultation of original field data) of every cat D equatorial position error exceeding a tenth of a great-circle degree (c.200 cases: §M). [h] Rigorous sph trig computation (from the original raw observational data) of all of Tycho's long-murky Final Fifty stars (1596-1597: Tables 19&20). [i] Weeding out stars that are nonexistent, hybrid, fishy, forced, fake,¹ and-or mere repeats (of earlier entries), in order to arrive at an accurate count of the number (965) of distinct outdoor stars Tycho recorded (§K4).

The catalog has been sent automatically, without charge, to those libraries that already receive *DIO*. Other libraries interested in adding the catalog to their collections are invited to contact us.

¹ [*DIO* 2.1 ‡4 established that ten stars in cat D were fabricated. And the subsequent (1994) discovery of an additional forced-data star [D971] (confirmed by DR's direct consultation of Tycho's original mss in the Danish Royal Library) brought the total of such cases to eleven, thereby reducing the number of Tycho-recorded stars from 966 (the [original 1992 edition] count at *DIO* 2.1 ‡4 §B2) to: 965.]