A discussion of equator and equinox solutions from meridian circle observations of Mars and Jupiter

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Usno transit circle observations of solar system objects
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The U.S. Naval Observatory has a long history of transit circle observations of Solar system objects, mostly used to determine the equator and equinox corrections for the various absolute star catalogs. Work on the W1J00 catalog (1977-1982) and the current pole-to-pole observing program (simultaneous observations from both the Northern and Southern hemispheres) have allowed further investigations of problems, improvements, and new techniques. For example, daytime observations of Mars during the pole-to-pole program should allow for a better determination of the night-minus-day correction. The instrument in the Southern hemisphere is able to observer stars to 5.1 magnitude in the daytime, allowing for a daytime determination of the clock correction and the azimuth. Improvements have also been made in the way the equator and equinox corrections are being determined. These improvements while affecting the most recent catalog reductions will also contribute to the formation of the future Washington Fundamental Catalog.