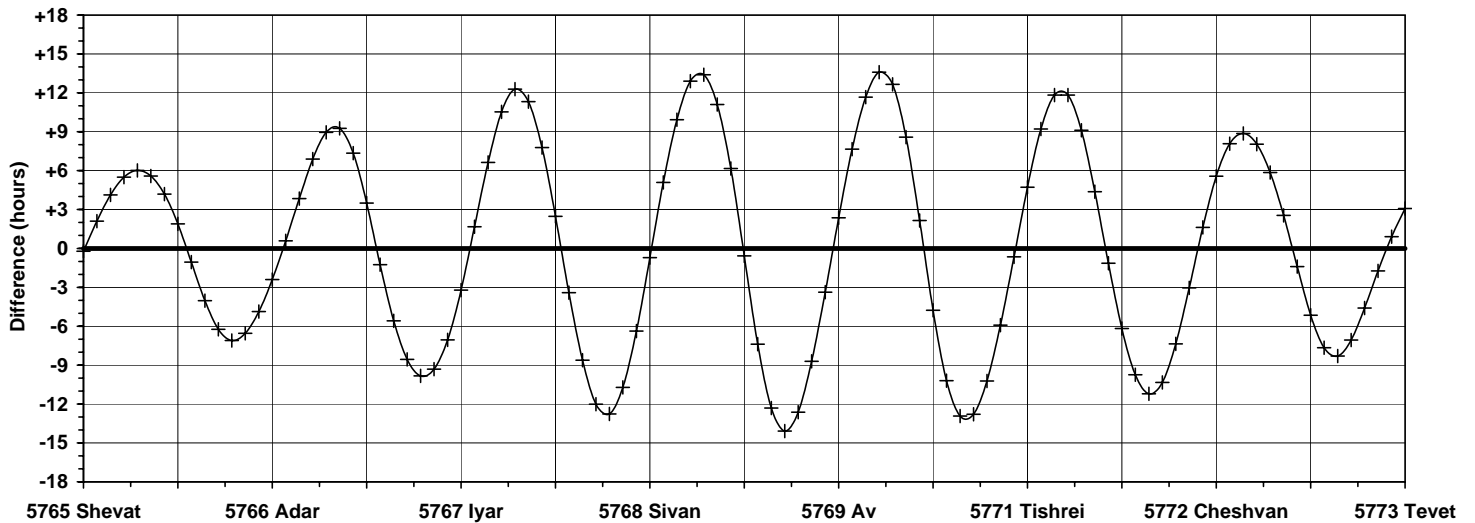
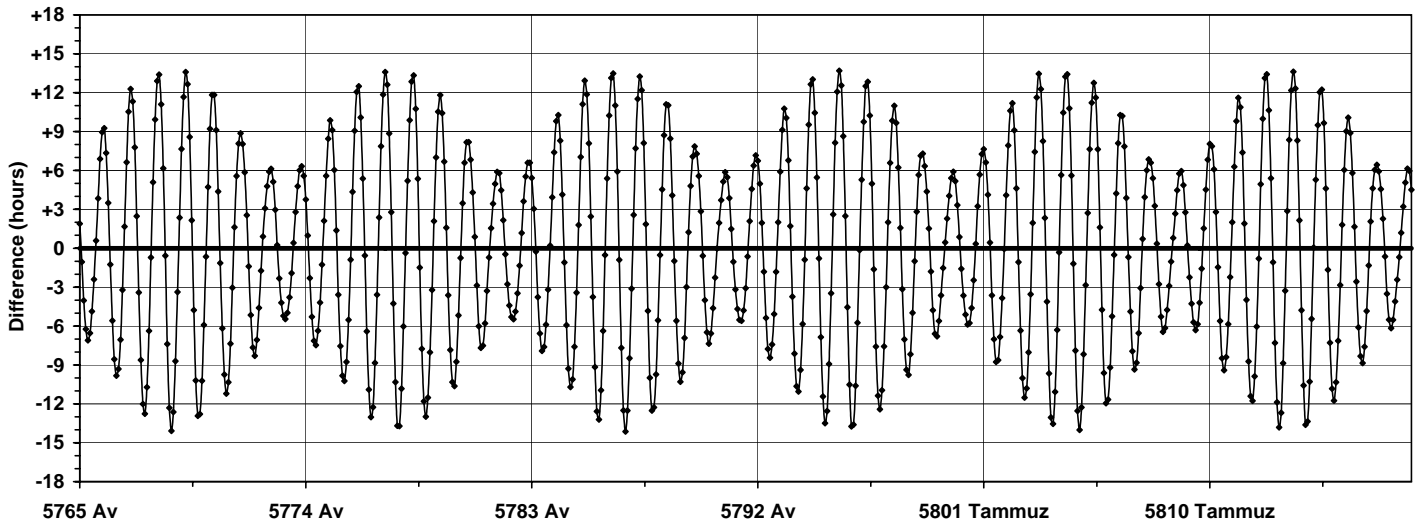


Progressive Molad minus Actual New Moon

Short-term periodic variability repeats at intervals of about 412 days (almost 14 lunar months), due to lunar orbital perigee advance:



Medium-term periodic variability repeats at intervals of almost 9 years or about 111 lunar months, and is the time required for the lunar orbital perigee to advance eastward 360° with respect to the Earth orbital perihelion (over tens of thousands of years, the amplitude of these variations will decrease as the Earth orbital eccentricity decreases):



Long-term periodic variability repeats at intervals of about 184 years (almost 2277 lunar months), and is the time required for the lunar orbital nodes to regress westward 180° with respect to the Earth orbital perihelion (the progressively shorter molad interval avoids appreciable long-term drift, keeping the average at zero difference):

