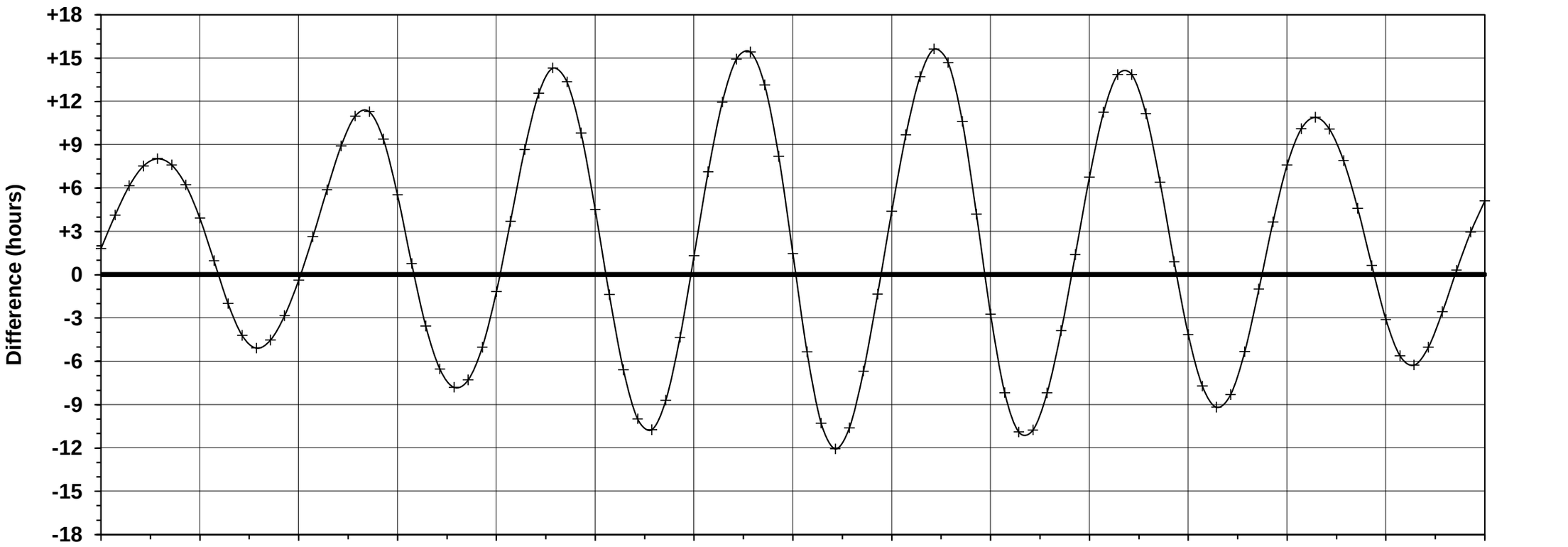
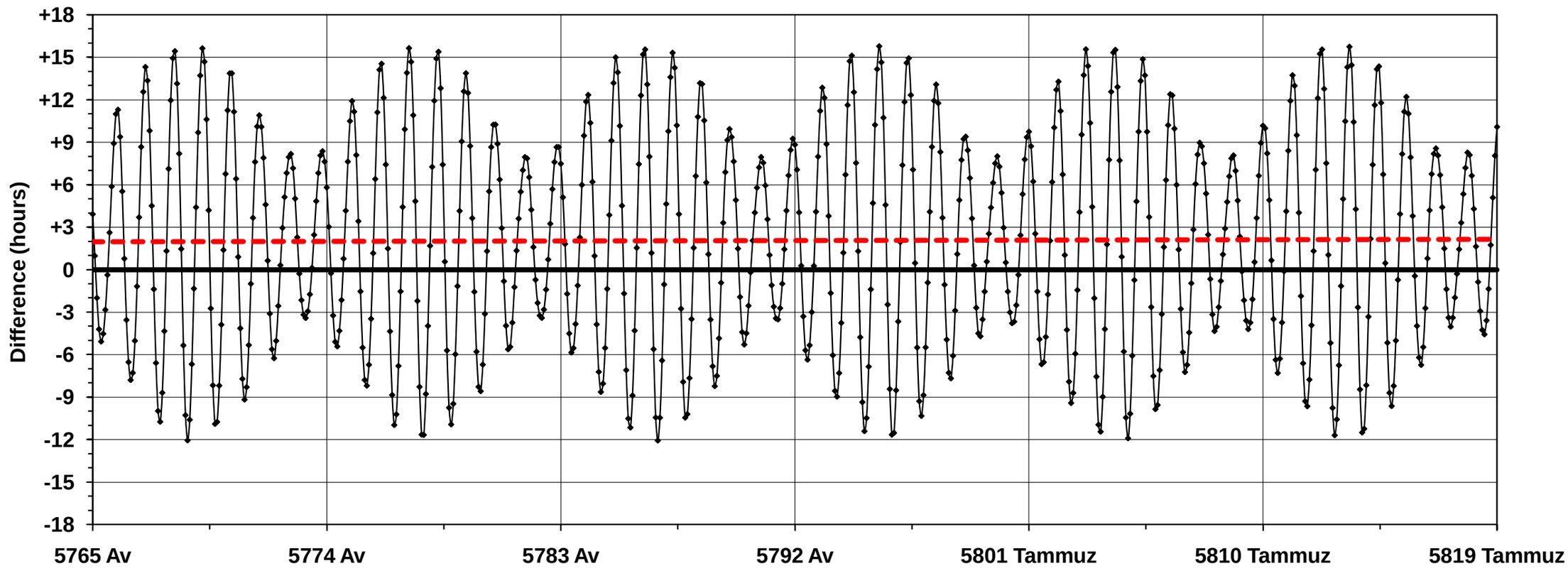
Traditional *Molad* minus Actual New Moon (Jerusalem Mean Local Time)

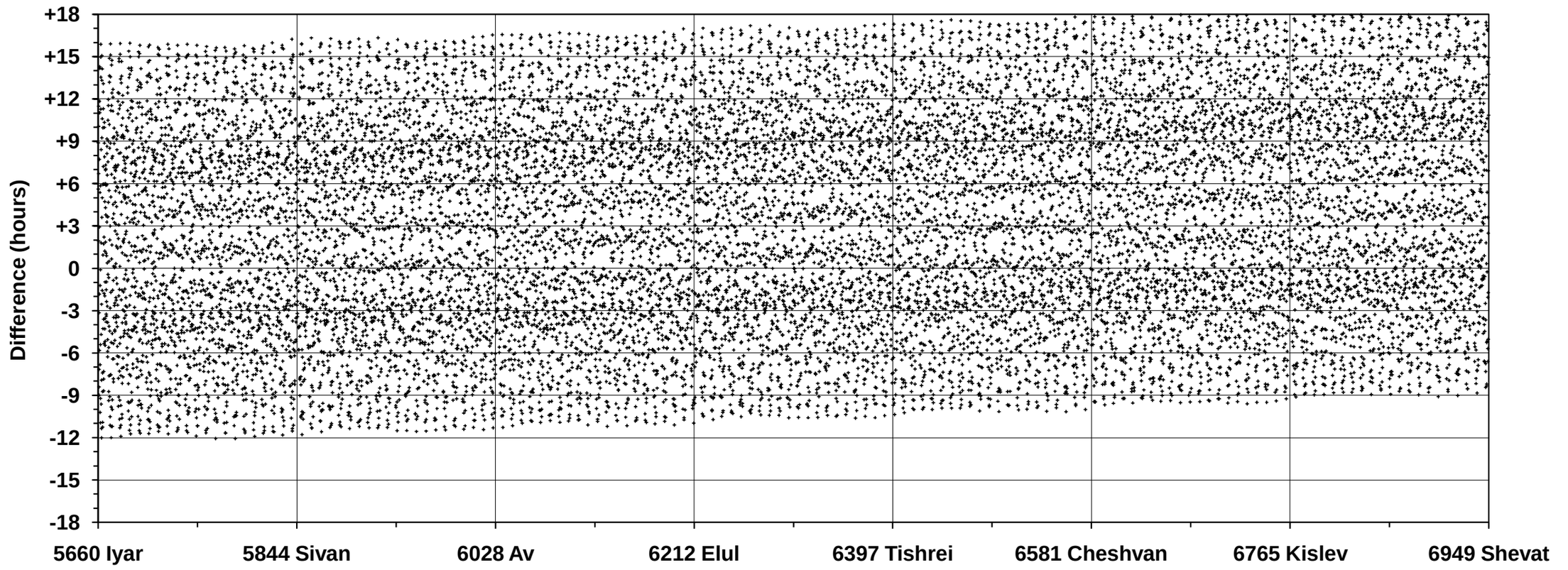
Short-term periodic variability repeats at intervals of about 412 days (almost 14 lunar months), due to lunar orbital perigee advance.
The maximum positive peaks occur when Earth is near perihelion (moving fastest) and Moon is near apogee (moving slowest).
The maximum negative peaks occur when Earth is near aphelion (moving slowest) and Moon is near perigee (moving fastest).



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.
Through future millennia, as Earth orbital eccentricity decreases, peaks will converge toward intermediate heights.



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.
Today the traditional *molad* is over 2 hours late [Jerusalem], but in the long-term it will drift later at an accelerating rate:



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