Arithmetic Persian (Birashk) 2820-Year Leap Cycle Jitter

Year is a leap year if the remainder of \( \left\{ \left( \frac{\text{year} + 38}{128} \right) \times 31 \right\} \) is less than 31

where \( \text{year} \) is shifted +474 years as per Reingold & Dershowitz, "Calendrical Calculations: The Ultimate Edition"

Jitter vs. Mean Year

\[ \text{Jitter range} = 1.02234 = 1 + \frac{21}{940} \text{ days} \]

Year (excessively long cycle, mean year of 365\(\frac{683}{2820}\) days = 365d 5h 48m 45s/47s = about 365.24219858 days, approximates mean tropical year)