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19383. *Some new Families of Tasoevian- and Hurwitzian Continued Fractions.*

We derive closed-form expressions for several new classes of Hurwitzian- and Tasoevian continued fractions, including

$$[0; \overline{p-1, 1, u(a+2nb)-1, p-1, 1, v(a+(2n+1)b)-1}]_{n=0}^{\infty},$$

$[0; \overline{c+dm^n}]_{n=1}^{\infty}$ and $[0; \overline{eu^n, fv^n}]_{n=1}^{\infty}$. One of the constructions used to produce some of these continued fractions can be iterated to produce both Hurwitzian- and Tasoevian continued fractions of arbitrary long quasi-period, with arbitrarily many free parameters and whose limits can be determined as ratios of certain infinite series.

We also derive expressions for arbitrarily long *finite* continued fractions whose partial quotients lie in arithmetic progressions. (Received July 31, 2008)