1003-33-624   **Jonathan M Borwein*** (`jborwein@cs.dal.ca`), Faculty of Computer Science, 6050 University Avenue, Dalhousie University, Halifax, NS B3H 3W5, Canada. *Dynamics of some continued fractions originating with Ramanujan.*

The *Ramanujan AGM continued fraction*

$$\mathcal{R}_\eta(a,b) = \cfrac{a}{\eta + \cfrac{b^2}{\eta + \cfrac{4a^2}{\eta + \cfrac{9b^2}{\eta + \ddots}}}}$$

enjoys attractive algebraic properties such as a striking *arithmetic-geometric mean relation* and elegant links with *elliptic-function theory.* The fraction presents a computational challenge, which we could not resist. Resolving its behaviour—especially its convergence in the complex plane—involves an interesting mix of analysis, number theory and dynamics.

   This is joint work with Richard Crandall and others, and is to appear in *Experimental Mathematics* and elsewhere.

   Preprints may be found at `www.cs.dal.ca/~ j.borwein` (Received September 24, 2004)