

## **ABSTRACT**

In this paper, we consider Latouche-Ramaswami's logarithmic reduction algorithm for solving quasi-birth-and-death models. We shall present some theoretical properties concerning convergence of the algorithm and discuss numerical issues arising in finite precision implementations. In particular, we shall present a numerically more stable implementation together with its rounding error analysis. Numerical examples will be given to demonstrate the higher accuracy achieved by the refined implementation.