1007-20-38　　　　　**Delaram Kahrobaei*** (`dk16@st-and.ac.uk`), Mathematical Institute, University of St Andrews, North Haugh, KY 16 9SS St Andrews, Fife, Scotland, and **Bettina Eick** (`beick@tu-bs.de`), Institut Computational Mathematics, Fachbereich Mathematik und Informatik, Technische Universität Braunschweig, Braunschweig, Germany. *Polycyclic Groups: A new Platform for Cryptology.*

We propose a new cryptosystem based on polycyclic groups. The cryptosystem is based on the fact that the word problem can be solved effectively in polycyclic groups, while the known solutions to the conjugacy problem are far less efficient. (Received December 25, 2004)

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