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**Teruhisha Haruguchi** and **Janine LoBue\*** (jlobue@loyola.edu), MS 2132, 4501 North Charles Street, Baltimore, MD 21210, and **James Pierce** and **David Roberson**. *On the Parameterized Complexity of Independent Set*. Preliminary report.

The Independent Set problem is an NP-hard problem that determines, for a given graph  $G$  of  $n$  vertices, whether  $G$  has an independent set of size at least  $k$ . An independent set of  $G$  is a subset of the vertices of  $G$  so that no two elements of the subset are joined by an edge in  $G$ . In this talk, we present a parameterized algorithm that solves the Independent Set problem in time  $O(2^{2.1152k+0.1028n})$ . We also compare this newly developed algorithm's performance to that of previous algorithms, and show, both in theory and in experiments, that it improves the current best run-time when  $k \leq 0.07n$ . (Received September 06, 2006)