1163-05-756 **Bogumil Kaminski**, Warsaw, Poland, **Pawel Pralat*** (pralat@ryerson.ca), Toronto, ON , Canada, and **Francois Theberge**, Ottawa, ON , Canada. *An Unsupervised Framework for Comparing Graph Embeddings.*

The goal of many machine learning applications is to make predictions or discover new patterns using graph-structured data as feature information. In order to extract useful structural information from graphs, one might want to try to embed it in a geometric space by assigning coordinates to each node such that nearby nodes are more likely to share an edge than those far from each other. There are many embedding algorithms (based on techniques from linear algebra, random walks, or deep learning) and the list constantly grows. As a result, selecting the best embedding is a challenging task and very often requires domain experts. Our general framework assigns the divergence score to each embedding which, in an unsupervised learning fashion, distinguishes good from bad embeddings. In order to benchmark embeddings, we generalize the Chung-Lu random graph model to incorporate geometry. (Received September 12, 2020)