1067-60-1441 **Vadim Kostrykin** and **Jurgen K Potthoff*** (potthoff@math.uni-mannheim.de), Institute of Mathematics, University of Mannheim, D-68131 Mannheim, Germany, and **Robert Schrader**.

Brownian Motions on Metric Graphs.

Metric graphs are graphs whose edges are isomorphic to either compact intervals or to the positive half line, and which thereby inherit a natural metric structure. Over the last years metric graphs became important as an underlying structure of models in many domains of science. A Brownian motion on a metric graph is by definition a strong Markov process with càdlàg paths which are continuous up to the lifetime, and which away from the vertices is equivalent to a standard one dimensional Brownian motion. In this talk, all Brownian motions on a metric graph are characterized and their paths are constructed. (Received September 21, 2010)