1139-81-153   **Shelby Kimmel***, Middlebury College, Middlebury, VT, and **Michael Jarret**, **Stacey Jeffery** and **Alvaro Piedrafita**. *Quantum Algorithms for Connectivity: Applications and Analysis.*

A large class of quantum algorithms are derived from linear algebraic objects called span programs. However, analyzing properties of span programs (which in turn gives us information about the performance of quantum algorithms) can be challenging. I will describe a tight characterization of a span program-based quantum algorithm for st-connectivity that has a wide variety of applications (Received February 09, 2018)