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Poramate Pranayanuntana* (kpporama@kmitl.ac.th), Department of Control Engineering, Faculty of Engineering, King Mongkut's Inst. of Tech. Ladkrabang, 10520 Ladkrabang, Bangkok, Thailand, and **John Gordon** (jgordon@qcc.cuny.edu), Queensborough Community College, Bayside, NY 11364. *The matrix analogs of Firey's Extension of Minkowski inequality and of Firey's Extension of Brunn-Minkowski inequality.*

The Brunn-Minkowski theory is a core part of convex geometry. At its foundation lies the Minkowski addition of convex bodies which led to the definition of mixed volume of convex bodies and to various notions and inequalities in convex geometry. Various matrix analogs of these notions and inequalities have been well known for a century. We present a few new analogs. The major theorems presented here are the matrix analogs of Firey's Extension of Minkowski inequality and of Firey's Extension of Brunn-Minkowski inequality. (Received March 07, 2006)