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Christopher R Cornwell*, 2721 Trappers Cove Trail, Apt. 2C, Lansing, MI 48910. *Polynomial and contact invariants of links in lens spaces.*

Using grid diagrams we construct a new polynomial invariant for links in lens spaces. We then find an inequality that relates this polynomial to the contact invariants of Legendrian and transverse links in lens spaces having a certain tight contact structure. Our result is a generalization of the Franks-Williams- Morton inequality. Along the way we will point out applications of our work to questions about lens space surgeries. (Received March 22, 2010)