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Bruno Benedetti* (bruno@zedat.fu-berlin.de) and **Matteo Varbaro**
(varbaro@dima.unige.it). *Connectivity of dual graphs of algebraic varieties.*

The dual graph of an algebraic variety is defined as follows, the nodes are just the irreducible components; two components are joined by an edge iff they intersect in codimension one. Hartshorne proved that the dual graph of any Cohen-Macaulay algebra is connected. Here we present a quantitative version: The dual graph of any Gorenstein subspace arrangement is r -connected, where r is the Castelnuovo–Mumford regularity. Note that the Stanley-Reisner ring of any simplicial $(r-1)$ -dimensional sphere is a Gorenstein subspace arrangement of regularity r . So in this very special case, our result boils down to Balinski’s theorem (“the graph of every r -polytope is r -connected”). (Received August 13, 2014)